

## OECD Economic Surveys

# ICELAND

Iceland has rapidly caught up with the richest OECD economies. Favourable external conditions and good policies helped create inclusive growth, low unemployment, low inflation, and sustainable public finances. The economy is very egalitarian, and living standards are among the highest in the OECD. Yet growth is now turning sharply due to a rapid decline in tourist arrivals and weak marine exports, with growth projected to slow to around zero in 2019. Wages are rising faster than productivity and the competitiveness gains, achieved after the 2008 crisis, are exhausted by now. Regulation is stringent. The government should set up a comprehensive action plan for regulatory reform, prioritising reforms that foster competition, level the playing field between domestic and foreign firms and attract international investment. Linking wages more closely to productivity developments could also help maintain competitiveness. A comprehensive skills strategy that builds strong foundation skills and provides the right skill mix would help Iceland to prepare for rapid technological change. The quality of public spending has declined since the 2008 crisis. Providing a better nexus between spending and performance targets in various policy areas could help increase public sector effectiveness.

**SPECIAL FEATURES: SKILLS; PUBLIC FINANCE**

Consult this publication on line at <https://doi.org/10.1787/c362e536-en>.

This work is published on the OECD iLibrary, which gathers all OECD books, periodicals and statistical databases. Visit [www.oecd-ilibrary.org](http://www.oecd-ilibrary.org) for more information.

Volume 2019/16  
September 2019

OECD publishing  
[www.oecd.org/publishing](http://www.oecd.org/publishing)



ISSN 0376-6438  
2019 SUBSCRIPTION  
(18 ISSUES)

ISBN 978-92-64-96409-9



OECD Economic Surveys

Volume 2019/16

ICELAND

September 2019



# OECD Economic Surveys ICELAND

SEPTEMBER 2019



# OECD Economic Surveys: Iceland 2019

This document, as well as any data and any map included herein, are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

**Please cite this publication as:**

OECD (2019), *OECD Economic Surveys: Iceland 2019*, OECD Publishing, Paris,  
<https://doi.org/10.1787/c362e536-en>.

ISBN 978-92-64-96409-9 (print)  
ISBN 978-92-64-89913-1 (pdf)

OECD Economic Surveys  
ISSN 0376-6438 (print)  
ISSN 1609-7513 (online)

OECD Economic Surveys: Iceland  
ISSN 1995-3240 (print)  
ISSN 1999-0308 (online)

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

**Photo credits:** Cover © marchello/Shutterstock.com.

Corrigenda to OECD publications may be found on line at: [www.oecd.org/about/publishing/corrigenda.htm](http://www.oecd.org/about/publishing/corrigenda.htm).

© OECD 2019

---

You can copy, download or print OECD content for your own use, and you can include excerpts from OECD publications, databases and multimedia products in your own documents, presentations, blogs, websites and teaching materials, provided that suitable acknowledgement of OECD as source and copyright owner is given. All requests for public or commercial use and translation rights should be submitted to [rights@oecd.org](mailto:rights@oecd.org). Requests for permission to photocopy portions of this material for public or commercial use shall be addressed directly to the Copyright Clearance Center (CCC) at [info@copyright.com](mailto:info@copyright.com) or the Centre français d'exploitation du droit de copie (CFC) at [contact@cfcopies.com](mailto:contact@cfcopies.com).

---

## *Table of Contents*

<b>Executive summary .....</b>	<b>9</b>
<b>Key policy insights.....</b>	<b>15</b>
Growth is slowing.....	17
The monetary policy framework is well established .....	24
Further reforms to the monetary policy framework are underway.....	26
Monetary policy has eased but vigilance is needed .....	26
Safeguarding a resilient financial sector .....	27
Fiscal policy for inclusive growth.....	30
The fiscal framework can be strengthened further .....	31
Improving the quality of spending .....	32
Rebalancing taxation .....	34
Establishing a sovereign wealth fund.....	36
Structural reform to improve competitiveness is needed.....	37
Lowering the regulatory burden .....	38
Productivity differs more than wages.....	40
Fostering strong and relevant skills.....	41
Institutions and governance could be strengthened further .....	43
Green growth .....	45
References.....	47
<b>Thematic chapters .....</b>	<b>50</b>
<b>Chapter 1. Fostering strong and relevant skills.....</b>	<b>51</b>
Building solid core skills .....	54
Iceland spends significantly on education but outcomes have deteriorated.....	54
Meeting the reading skills target .....	62
Improving teaching quality .....	63
Helping students to succeed .....	67
Reducing inequalities in education quality .....	69
There is scope for better skills matching and a more rigorous analysis of skills needs.....	70
Evidence suggests the presence of skills gaps.....	70
Developing tools to assess and anticipate skills needs.....	72
Addressing skills imbalances.....	73
Strengthening the vocational pillar .....	73
Harnessing skills for a knowledge- and innovation-driven economy .....	76
Ensuring lifelong learning for all .....	81
Making better use of existing skills .....	82
Active labour market policies .....	82
Improving financial incentives to work.....	83
Making better use of immigrant skills.....	86
References.....	89

<b>Chapter 2. Improving public spending to maintain inclusive growth .....</b>	<b>93</b>
The quality of public spending has deteriorated .....	94
Performance budgeting should be strengthened .....	95
Decentralisation should be modernised .....	98
Education spending needs better impact.....	99
From childhood to PISA .....	99
Tertiary education .....	102
Private funding of universities should be strengthened.....	104
Health care could be made more cost-effective .....	104
Health care works well but is expensive .....	104
Health reforms should help contain unnecessary spending.....	105
Private cost participation could help reduce overconsumption.....	106
Public infrastructure should be planned more rigorously .....	107
Social protection .....	109
The system is well-targeted but discourages low- and medium income earners.....	109
Disability benefits are rising .....	110
Subsidies should become less damaging .....	112
References.....	114

## Tables

Table 1. Macroeconomic indicators and projections.....	18
Table 2. Past OECD recommendations on tourism.....	23
Table 3. Possible low-probability extreme shocks to the Icelandic economy .....	24
Table 4. Prudential regulations: A summary .....	25
Table 5. Past OECD recommendations on monetary and financial policies.....	30
Table 6. Fiscal overview.....	30
Table 7. Illustrative fiscal impact of recommended reforms.....	35
Table 8. Past OECD recommendations on improving labour relations.....	41
Table 9. Potential impact of structural reforms on per capita GDP.....	44
Table 1.1. Unemployment insurance benefit (UI) provisions in selected countries.....	85

## Figures

Figure 1. Iceland: an impressive catch-up.....	15
Figure 2. Wellbeing is overall high .....	16
Figure 3. The economy is slowing .....	19
Figure 4. The labour market is easing .....	20
Figure 5. External positions are sound but the economy could be more open .....	21
Figure 6. Tourism drives Iceland's export growth .....	22
Figure 7. Has Iceland hit peak tourism? .....	23
Figure 8. Monetary policy is easing .....	27
Figure 9. Conditions in the financial sector have improved.....	28
Figure 10. The banking sector appears sound .....	29
Figure 11. Debt is declining more slowly .....	31
Figure 12. Debt will decline further but only if fiscal policy remains disciplined.....	32
Figure 13. Spending quality declined.....	33
Figure 14. Taxation relies strongly on income .....	34
Figure 15. Competitiveness is declining .....	38
Figure 16. The regulatory burden is high .....	39

Figure 17. Productivity differs more than wages across sectors .....	40
Figure 18. The PISA scores have weakened .....	42
Figure 19. There is scope for better skills match.....	43
Figure 20. Corruption is low but creeping up.....	44
Figure 21. Despite abundant renewables, environmental impact remains considerable .....	46
Figure 1.1. Iceland faces skills-related challenges .....	53
Figure 1.2. Iceland spends comparatively more on compulsory education.....	54
Figure 1.3. Low and declining PISA scores .....	56
Figure 1.4. Immigrant students underperform by a wide margin .....	57
Figure 1.5. Socio-economic background has a small impact on students' outcomes.....	58
Figure 1.6. Rural-urban differences in education performance .....	59
Figure 1.7. A large gender gap in reading literacy remains .....	60
Figure 1.8. Drivers of student performance.....	62
Figure 1.9. The teaching profession faces challenges at primary and lower secondary level .....	64
Figure 1.10. Teacher salaries are relatively low .....	65
Figure 1.11. There is scope to improve teachers' training and professional development.....	68
Figure 1.12. Many compulsory schools are small, 2015 .....	69
Figure 1.13. Many sectors appear to face skills shortages .....	71
Figure 1.14. Skills mismatch could be reduced.....	72
Figure 1.15. Participation in VET needs to increase, despite good job outcomes.....	74
Figure 1.16. School dropouts and late completions affect VET students more .....	75
Figure 1.17. Tertiary education performance could be enhanced .....	77
Figure 1.18. Relatively few students graduate from STEM fields .....	79
Figure 1.19. Collaborative research could be strengthened.....	80
Figure 1.20. Participation in lifelong learning.....	81
Figure 1.21. High effective tax rates on entering employment .....	83
Figure 1.22. Relatively high net replacement rates may reduce work incentives .....	84
Figure 1.23. Immigrant integration in the labour market could be strengthened .....	87
Figure 2.1. The quality of public spending has declined.....	95
Figure 2.2. The fiscal council is relatively weak .....	97
Figure 2.3. Performance of compulsory education is low despite high spending .....	100
Figure 2.4. Education has become more devolved.....	101
Figure 2.5. Private funding of tertiary education is almost inexistent.....	103
Figure 2.6. Iceland spends a lot on health yet also gets a lot out.....	105
Figure 2.7. Hospital care is costly .....	106
Figure 2.8. Social benefits are well-targeted.....	109
Figure 2.9. The tax-benefit system puts a high marginal burden on low-income earners.....	110
Figure 2.10. Disability has risen fast .....	111

## Boxes

Box 1. Turning the page on capital controls.....	25
Box 2. Quantifying fiscal policy recommendations .....	35
Box 3. Sovereign wealth fund – a case for Iceland? .....	36
Box 4. The spring 2019 wage agreements.....	41
Box 5. Quantification of structural reforms .....	44
Box 1.1. Education system: main features .....	54
Box 1.2. Explaining PISA results for Iceland: an empirical analysis.....	61
Box 1.3. Improving the effectiveness of teacher-appraisal system: international evidence.....	67
Box 1.4. Potential impact of reforms of out-of-work benefits on work incentives in Iceland .....	86

---

Box 2.1. Spending review: budgeting for performance.....	98
Box 2.2. Decentralised education performs better .....	101
Box 2.3. The Icelandic health funding system and the new health care strategy .....	105
Box 2.4. Norway’s comprehensive transport investment planning.....	108
Box 2.5. The decade-long reform of Switzerland’s disability insurance .....	111

*This Survey is published on the responsibility of the Economic and Development Review Committee of the OECD, which is charged with the examination of the economic situation of member countries.*

*The economic situation and policies of Iceland were reviewed at a meeting of the Economic and Development Review Committee on 13 June 2019. The draft was revised in the light of the discussions and given final approval as the agreed report of the whole Committee on 12 July 2019.*

*The Secretariat's draft report was prepared for the Committee by Hansjoerg Bloechliger and Vassiliki Koutsogeorgopoulou under the supervision of Piritta Sorsa. The draft has benefitted from consultancy work by Olga Rastrigina and Daniele Pacifico and valuable background research by Laura Brogi.*

*Statistical research was provided by Anne Legendre. Assa Fofana formatted and produced the layout.*

*The previous Survey of Iceland was issued in June 2017.*

## Follow OECD Publications on:



[http://twitter.com/OECD\\_Pubs](http://twitter.com/OECD_Pubs)



<http://www.facebook.com/OECDPublications>



<http://www.linkedin.com/groups/OECD-Publications-4645871>



<http://www.youtube.com/oecdlibrary>



<http://www.oecd.org/oecdirect/>

## This book has...

**StatLinks** 

A service that delivers Excel® files from the printed page!

Look for the StatLinks  at the bottom of the tables or graphs in this book. To download the matching Excel® spreadsheet, just type the link into your Internet browser, starting with the <http://dx.doi.org> prefix, or click on the link from the e-book edition.

**Basic statistics of Iceland, 2018**  
(Numbers in parentheses refer to the OECD average)

LAND, PEOPLE AND ELECTORAL CYCLE					
Population (million)	0.4		Population density per km <sup>2</sup>	3.5	(37.8)
Under 15 (%)	20.0	(17.8)	Life expectancy (years, 2017)	82.2	(80.3)
Over 65 (%)	14.8	(17.1)	Men (2017)	80.4	(77.7)
Foreign-born (% , 2017)	13.5		Women (2017)	84.1	(83.0)
Latest 5-year average growth (%)	1.8	(0.6)	Latest general election	October	2017
ECONOMY					
Gross domestic product (GDP)			Value added shares (% , 2016)		
In current prices (billion USD)	26.1		Primary sector	5.2	(2.4)
In current prices (billion ISK)	2810.0		Industry including construction	22.3	(27.5)
Latest 5-year average real growth (%)	4.5	(2.3)	Services	72.5	(70.1)
Per capita (000 USD PPP, 2017)	57.5	(46.4)			
GENERAL GOVERNMENT					
Per cent of GDP					
Expenditure (OECD: 2017)	41.7	(40.3)	Gross financial debt (OECD: 2017)	61.8	(112.4)
Revenue (OECD: 2017)	42.8	(38.1)	Net financial debt (OECD: 2017)	6.5	(69.6)
EXTERNAL ACCOUNTS					
Exchange rate (ISK per USD)	107.79		Main exports (% of merchandise exports)		
PPP exchange rate (USA = 1)	138.33		Manufactured goods	43.7	
In per cent of GDP			Food and live animals	41.9	
Exports of goods and services	47.1	(56.1)	Machinery and transport equipment	4.5	
Imports of goods and services	44.1	(52.0)	Main imports (% of total goods imports)		
Current account balance	2.9	(0.3)	Machinery and transport equipment	34.3	
Net international investment position	9.1		Mineral fuels, lubricants and related materials	14.4	
			Crude materials, inedible, except fuels	12.4	
LABOUR MARKET, SKILLS AND INNOVATION					
Employment rate (aged 15 and over %)	85.1	(68.4)	Unemployment rate, Labour Force Survey (age 15 and over) (%)	2.7	(5.3)
Men	87.5	(76.0)	Youth (age 15-24, %)	6.0	(11.1)
Women	82.5	(60.9)	Long-term unemployed (1 year and over, %, 2017)	0.2	(1.7)
Participation rate for 15-64 year-olds (% 2017)	88.3	(72.1)	Tertiary educ. Attain (aged 25-64 year-olds (% , 2017)	42.4	(36.9)
Average hours worked per year (2017)	1858	(1 746)	Gross domestic expenditure on R&D (% of GDP, 2016)	2.1	(2.5)
ENVIRONMENT					
Total primary energy supply per capita (toe, 2017)	16.8	(4.1)	CO2 emissions from fuel combustion per capita (tonnes, 2016)	6.3	(9.0)
Renewables (% , 2017)	88.5	(10.2)	Water abstractions per capita (1 000 m <sup>3</sup> , 2014)	4.4	
Exposure to air pollution (more than 10 µg/m <sup>3</sup> of PM2.5, % of population)	5.7	(58.7)	Municipal waste per capita (tonnes, 2016, OECD: 2017)	0.7	(0.5)
SOCIETY					
Income inequality (Gini coefficient, 2015)c	0.255	(0.315)	Education outcomes (PISA score, 2015)		
Relative poverty rate (% , 2015)	5.40	(11.8)	Reading	482	(492)
Median gross household income (000 USD PPP, 2015)	30.3	(23.3)	Mathematics	488	(490)
Public and private spending (% of GDP)			Science	473	(493)
Health care (2017)	8.5	(8.8)	Share of women in parliament (%)	38.1	(29.7)
Pensions (2015)	9.2	(9.1)	Net official development assistance (% of GNI)	0.3	(0.4)
Education (public, 2017)	7.6	(4.5)			

The year is indicated in brackets if it deviates from the year in the main title of this table.

\*\* Where the OECD aggregate is not provided in the source database, a simple OECD average of latest available data is calculated where data exist for at least 80% of member countries.

Source: Calculations based on data extracted from databases of the following organisations: OECD, International Energy Agency, International Labour Organisation, International Monetary Fund, World Bank.

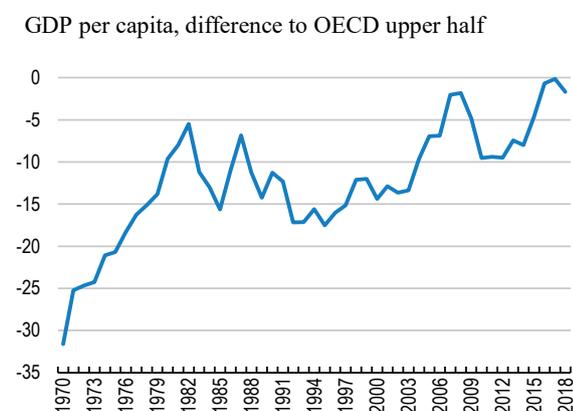
*Executive summary*

### Living standards and well-being are high

Iceland fully recovered from the 2008 financial crisis. The country is rapidly catching up with the richest OECD economies but is now slowing.

**The economy is strong.** Favourable external conditions and good macroeconomic policies helped create high growth, low unemployment, low inflation, sustainable public finances and a positive external balance over the past years. Living standards are among the highest in the OECD.

### Figure A. Iceland is converging rapidly



Source: OECD National Accounts database

StatLink  <https://doi.org/10.1787/888933996087>

**Slower growth is projected.** Growth is now turning around sharply. Tourism, the most important export sector, is declining because of supply constraints following the insolvency of one of Iceland's airlines. Marine exports also contracted. Consumption growth has eased despite considerable wage increases. The economy is expected to grow by 0.2% only in 2019 and to rebound to 2.2% in 2020, and unemployment will rise.

**Inequality is low.** Iceland is also one of the most egalitarian economies in the OECD thanks to high employment, little wage inequality, and low pay and employment gaps, suggesting that high economic performance and an egalitarian society can co-exist. A well-targeted tax-benefit system supports equality further.

**Growth is green.** Thanks to extensive use of renewable energy, Iceland's environmental impact remains low overall, although greenhouse gas emissions remain elevated. The government plans to make the economy largely carbon-neutral by 2040.

Table A. The economy is projected to slow

Growth rates, unless specified	2017	2018	2019	2020
Gross domestic product (GDP)	4.6	4.6	0.2	2.2
Private consumption	8.1	4.8	1.5	1.9
Government consumption	3.6	3.3	2.7	2.3
Gross fixed capital formation	11.6	2.1	0.9	4.3
Exports of goods and services	5.4	1.6	-5.1	0.7
Imports of goods and services	12.5	0.1	-2.6	0.8
Unemployment rate (% of labour force)	2.8	2.7	3.1	3.2
Consumer price index	1.8	2.7	3.7	3.2
Current account balance (% of GDP)	3.6	2.9	0.9	0.3
General government net lending (% of GDP)	0.5	1.1	-0.1	-0.4
General government gross debt (% of GDP)	63.4	61.8	61.6	61.7

**There are risks and vulnerabilities.** A marked downturn in global growth could severely affect revenues from tourism. A hard Brexit could dent exports to the United Kingdom. A bad fishing season would reduce exports further.

### Macroeconomic policy is sound

Monetary policy has eased and fiscal policy remains expansionary. Capital controls have been largely withdrawn.

**Monetary policy has eased.** After several years of undershooting the target, inflation has started to rise again, pushed by the depreciation of the króna in late 2018 coupled with strong domestic wage growth. The central bank increased the interest rate to 4.5% in November 2018 but lowered it to 4% in May, to 3.75% in June and to 3.5% in August 2019 as inflation expectations declined. Rates remain at a historical low, though significantly higher than in most OECD countries.

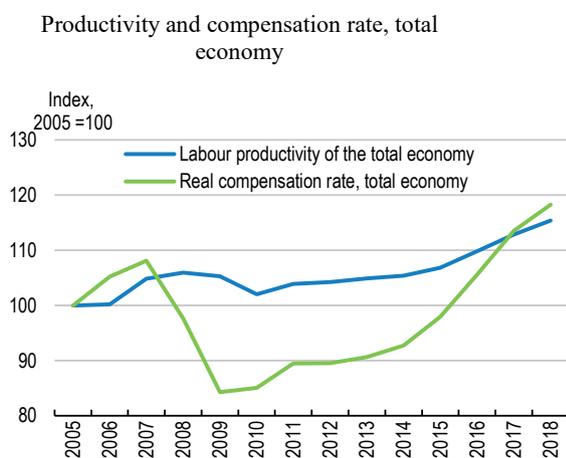
**Capital controls are largely dismantled.** Further capital controls have been lifted and are now virtually non-existent. Capital flow management is now in line with international agreements. Financial market developments have been inconspicuous. House price inflation has slowed, following the recent construction wave, easing immigration and a decline in Airbnb demand. The planned merger of the Central Bank with the Financial Supervisory Authority would strengthen financial sector oversight.

**Fiscal policy is expansionary.** Fiscal policy has been prudent in recent years, helping to achieve a budget surplus and lower debt. The fiscal plan for 2020 is expansionary, reflecting an increase in infrastructure and social spending and tax cuts.

### Boosting competitiveness

Competitiveness is on a long-term decline as wages are rising faster than productivity. Competitiveness gains, achieved after the 2008 crisis thanks to the devaluation of the króna and cuts to real wages, are exhausted by now. A focus on both productivity and wages is needed.

**Figure B. Competitiveness is declining**



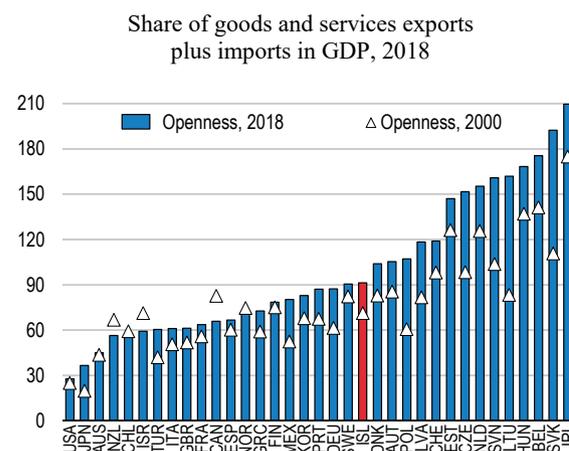
Source: Economic Outlook database

StatLink  <https://doi.org/10.1787/888933996106>

**A more open economy would help raise productivity.** Better integration into the world economy could help raise productivity. Openness remains below its potential. The productivity gap between the export and domestic sectors is wide. Further growth of exports on the back of efficiency gains in the domestic sector could

raise overall productivity and help share them more widely. Stronger integration into the world economy would also raise competition and encourage businesses in the domestic economy to become more innovative.

**Figure C. The country could be more open**



Source: OECD Analytical database.

StatLink  <https://doi.org/10.1787/888933996125>

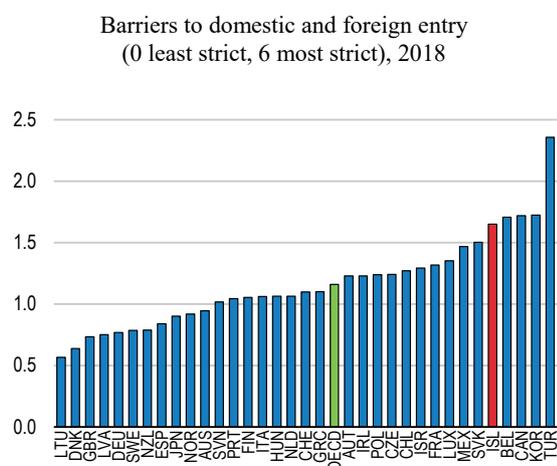
**Regulatory barriers are high.** Regulation should be more commensurate with the needs of a small open economy. Product market regulation is stringent and the administrative burden for start-ups is high, holding back investment and innovation. Restrictions to foreign direct investment are among the highest of the OECD, dampening employment and productivity gains through international knowledge transfer. The government should set up a comprehensive action plan for regulatory reform, prioritising reforms that foster competition, level the playing field between domestic and foreign firms and attract international investment. In early 2019 the government tasked the OECD to carry out competition reviews in two sectors.

**Wages should better reflect productivity developments.** Improved labour relations could also help maintain competitiveness. The wage structure is compressed; contributing to income equality, yet the wage bargaining process often leads to wage drift and creates inflationary pressures. The April 2019 wage agreements provide a welcome novelty by linking future wage developments to growth of GDP per capita.

Further steps should include: link wages more closely to productivity growth; provide reliable and relevant economic information; allow for better wage coordination; and increase power for the state mediator to delay industrial action.

**Stronger skills should respond to labour market needs.** Boosting skills would help Iceland to raise productivity and prepare for rapid technological change. This would require a comprehensive strategy with a high quality education system that builds strong foundation skills and provides the right skill mix. Moreover, effective lifelong learning strategies and well-designed policies should help to make the most of existing skills, including those of immigrants. Developing rigorous skill assessment and anticipation tools is essential to inform policy decisions.

**Figure D. The regulatory burden is high**



MAIN FINDINGS	KEY RECOMMENDATIONS
<b>Monetary, financial and fiscal policies</b>	
Inflation and inflation expectations are above target	Adjust interest rates in line with inflation developments
The banking sector is state-owned to a significant degree	Proceed with privatisation plans
The reform of financial sector oversight is under way	Complete the reform of the financial sector, while ensuring that regulatory and operational functions remain separated
Risks for expansionary fiscal policy remain. Debt reduction has slowed down	Follow the deficit rules of the fiscal framework Reduce debt further
<b>Productivity and competitiveness</b>	
Regulatory barriers are high. Openness remains below its potential. Productivity is weak and differs widely between the external and the domestic sector	Reduce the regulatory burden, especially in the service sector and the network industries Reduce barriers to foreign investment
Wage growth is above productivity, reducing competitiveness. Wage differences are small, which helps sharing productivity gains widely but discourages labour mobility and investment in education	Follow productivity growth when settling wages and rely on “wage guidelines” established by an expert group
<b>Green growth</b>	
CO2 emissions per capita are below OECD average thanks to abundant use of renewable energy. However, CO2 taxation is below OECD average and below social cost	Increase CO2 tax rates Broaden the environmental tax base by covering industry and agriculture
Agricultural subsidies contribute to environmental degradation, in particular soil erosion.	Decouple subsidies from production and disburse them conditional on sustainable land management and the production of environmental amenities
<b>Promoting skills</b>	
Educational performance remains weak, with many students lacking strong core skills at the end of compulsory education. The score is lower among immigrant children	Improve teaching quality by extending the period of practical training in initial education programmes and by providing more custom-made opportunities for teachers’ professional development Offer effective language training programmes
The analysis and forecasting of skills needs has not been conducted on a systematic basis to inform policy decision Skills shortages and qualification mismatch weigh on productivity growth	Develop methods and tools for monitoring skills needs that rely on several information sources, preferably both quantitative and qualitative Strengthen vocational skills by better integrating work- and school-based training Link university funding partially to the success of tertiary courses in providing skills corresponding to labour market needs
<b>Improving public spending</b>	
Performance budgeting is not well established despite being required by the new organic budget law	Extend spending reviews to core policy areas like education or health care, relying on international experience. Strengthen the role of the fiscal council and possibly merge it with the national accounting office
Transport infrastructure is at capacity limits, weighing on productivity. Investment needs are rising for energy and digital infrastructure	Apply more comprehensive cost-benefit analysis to infrastructure projects. Raise investment in transport, energy and digital infrastructure. Introduce road pricing for demand management and funding of transport infrastructure
The share of disability benefit recipients has doubled over the past 20 years.	Reform the disability system by shifting the focus from paying benefits towards return to work. Tighten eligibility criteria while offering more support for staying in work

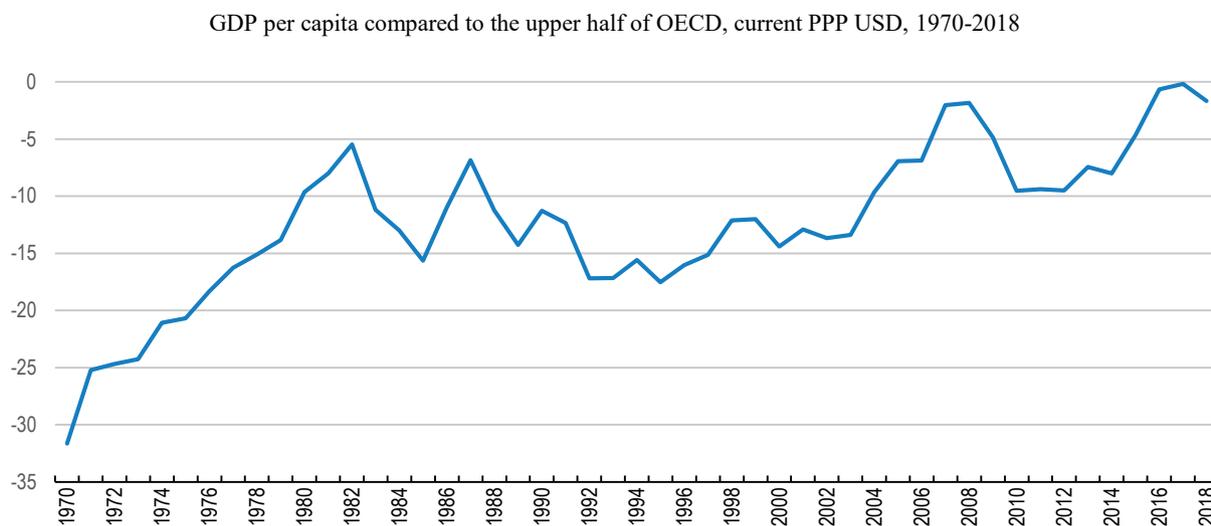


## Key policy insights

Small, remote and subject to eruptive geology, Iceland has nonetheless converged towards the wealthiest economies of the OECD since independence 100 years ago (Figure 1). Rapidly rising productivity and export orientation of the fishing industry were the core drivers of economic growth for decades, supported by a comprehensive quota management that helped maintain the sustainability of the fishing grounds (Haraldsson and Carey, 2011<sup>[1]</sup>). In the 1960s Iceland started to exploit its abundant renewable energy sources and attracted energy-intensive industries such as aluminium production, which boosted productivity further and improved the external balance. Regulatory reform, exchange rate liberalisation and tighter monetary and fiscal policy in the 1990s unleashed productive potential including the rise of the financial sector.

Still the road to prosperity was not smooth. A deep financial crisis due to excessive risk-taking shook the economy in 2008. GDP declined by 13%, unemployment reached 8% and public debt rose from around 30 to 95% of GDP within two years. The strong depreciation of the króna and a swift and solid policy response, including the introduction of capital controls and the rebuilding of the banking system, helped restore trust of financial markets and brought back employment and growth. A tourism boom with annual growth rates of 25%, making tourism Iceland's most important export sector, also boosted activity. Knowledge-intensive industries such as data processing or pharmaceuticals are developing rapidly. Today the economy is strong, unemployment low, the public finances sustainable and the external balance positive.

**Figure 1. Iceland: an impressive catch-up**



*Note:* Values before 1980 are estimated for some countries.

*Source:* OECD National Accounts.

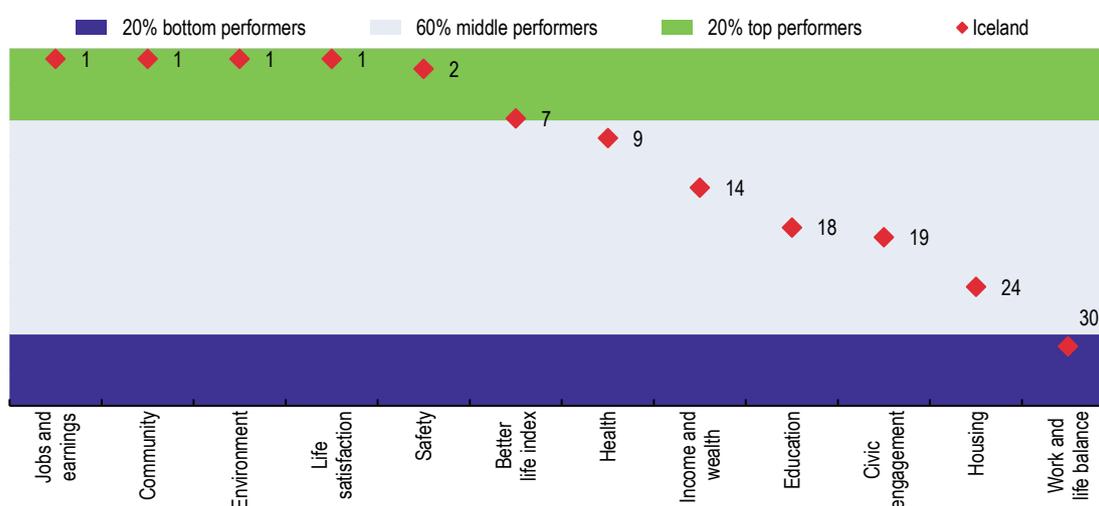
StatLink  <https://doi.org/10.1787/888933996087>

Iceland is also one of the most egalitarian economies of the OECD thanks to high labour force participation, a compressed wage distribution, and small pay and employment

differences between men and women. Over the past years inequality declined further as incomes of poorer households grew more than those at the top. The tax and welfare system including pensions is well targeted, making the country even more egalitarian. Access to education and health care is universal, and intergenerational equity is strong as socio-economic status has a weaker influence on education or health outcomes than in most other countries.

Wellbeing indicators point at a country that fares well overall, with most indicators above the average of the upper half of OECD countries (Figure 2). Performance is lower in education - resulting from declining PISA results – and in housing, owing to steep rises in house prices and a dearth of affordable housing for low-income earners. Iceland also scores poorly when it comes to the work-life balance, partly because of long working hours.

**Figure 2. Wellbeing is overall high**



Source: OECD Wellbeing database.

StatLink  <https://doi.org/10.1787/888933996182>

A number of structural weaknesses overshadow the strong economic performance. Productivity is held back by stringent product market regulations, below-average openness, weak business and public investment, and few resources dedicated to innovation. Competitiveness is declining as wages have outpaced productivity for several years, and the competitive edge gained after the crisis has vanished. Quality and efficiency of the public sector has declined, and government effectiveness was already deteriorating before the crisis. Most disquietingly, outcomes of the education system, as measured by the international PISA tests, are on a long-term decline. Finally, the targeted social welfare system makes for high marginal tax rates for low- and low-to medium earners, which could discourage work or investment in human capital.

Iceland has successfully left post-crisis management. It should now forcefully turn its attention to structural reform, which will help boost productivity and inclusive growth. Against this background, the key challenges for the economy are:

- To improve the regulatory framework to support competition and openness of the economy, as well as to boost productivity and innovation;

- To raise skills of the labour force through high quality education to meet present and future labour market demands;
- To make public spending more effective, underpinning productivity growth while maintaining Iceland's egalitarian society.

### Growth is slowing

The economy is slowing rapidly, partly due to several presumed temporary supply shocks (Figure 3). Tourist arrivals are declining after the insolvency of the low-cost Icelandic airline WOW. A contraction in marine exports adds to the shock. The global economic slowdown further weakens demand for Icelandic goods and services, although products from aquaculture and data processing are holding up well. As a result, the krona has weakened and the current account surplus narrowed. Business investment and business confidence has weakened because of easing external demand and the above-mentioned supply shocks. Household demand, including for imports, is easing on the back of deteriorating consumer confidence and a weaker employment outlook. Inflation is on the rise again driven by the weaker króna. Growth is projected to slow sharply to around 0.2% in 2019 and to recover to 2.2% in 2020 (Table 1).

**Table 1. Macroeconomic indicators and projections**

Annual percentage change, volume (2010 prices)

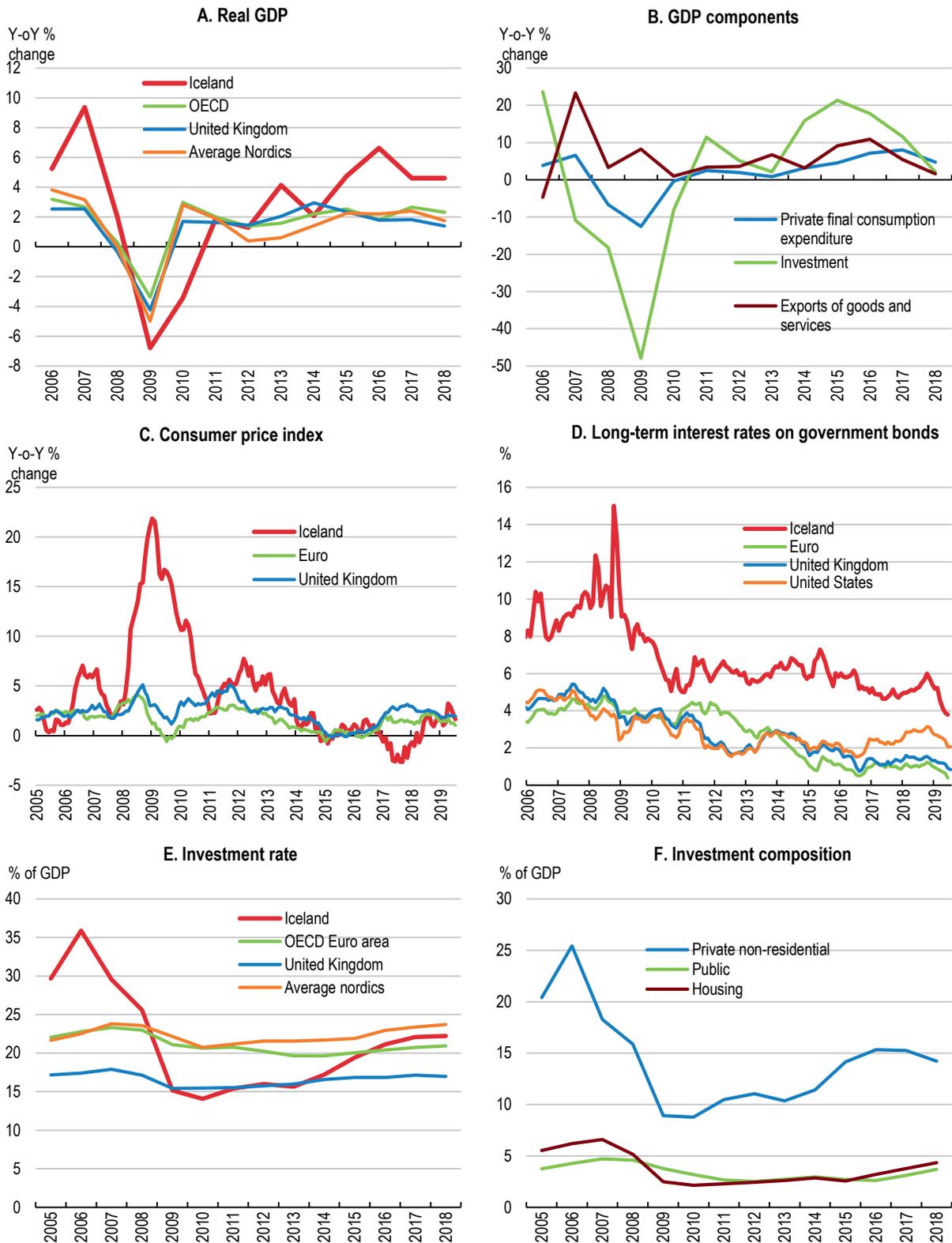
	2015	2016	2017	2018	Projections	
	Current prices (billion ISK)				2019	2020
<b>Gross domestic product (GDP)</b>	2,293.9	6.6	4.6	4.6	0.2	2.2
Private consumption	1,146.6	7.2	8.1	4.8	1.5	1.9
Government consumption	535.3	1.9	3.6	3.3	2.7	2.3
Gross fixed capital formation	445.0	17.8	11.6	2.1	0.9	4.3
Housing	58.6	26.4	20.7	16.7	5.6	4.3
Business	324.2	19.4	7.5	-5.2	-6.1	4.5
Government	62.2	-0.1	23.3	21.2	23.9	3.8
Final domestic demand	2,126.8	8.0	7.7	3.7	1.6	2.6
Stockbuilding <sup>1</sup>	3.5	-0.6	-0.5	0.4	0.3	0.0
Total domestic demand	2,130.3	7.4	7.4	4.3	1.9	2.6
Exports of goods and services	1,188.4	10.9	5.4	1.6	-5.1	0.7
Imports of goods and services	1,024.7	14.5	12.5	0.1	-2.6	0.8
Net exports <sup>1</sup>	163.6	-0.8	-2.6	0.7	-1.3	-0.1
<b>Other indicators</b> (growth rates, unless specified)						
Potential GDP	..	3.0	3.3	3.2	3.0	2.9
Output gap <sup>2</sup>	..	0.4	1.7	3.1	1.8	0.9
Employment	..	3.7	1.8	2.3	1.3	0.4
Unemployment rate (% of labour force)	..	3.0	2.8	2.7	3.1	3.2
GDP deflator	..	1.8	0.4	2.4	2.1	3.2
Consumer price index	..	1.7	1.8	2.7	3.7	3.2
Core consumer price index	..	2.2	2.4	2.5	3.5	3.2
Current account balance (% of GDP)	..	7.5	3.6	2.9	0.9	0.3
General government financial balance (% of GDP)	..	12.4	0.5	1.1	-0.1	-0.4
Underlying general government financial balance <sup>2</sup>	..	-3.0	-0.5	-0.7	-1.2	-1.0
Underlying government primary financial balance <sup>2</sup>	..	0.0	2.7	1.8	1.1	1.3
General government gross debt (% of GDP)	..	64.4	63.4	61.8	61.6	61.7
General government net debt (% of GDP)	..	9.1	8.1	6.5	6.3	6.4
Three-month money market rate, average	..	6.3	5.1	4.7	5.1	5.5
Ten-year government bond yield, average	..	5.6	4.9	5.3	6.0	6.4

1. Contribution to changes in real GDP.

2. As a percentage of potential GDP.

Source: OECD Economic Outlook database (preliminary).

Figure 3. The economy is slowing

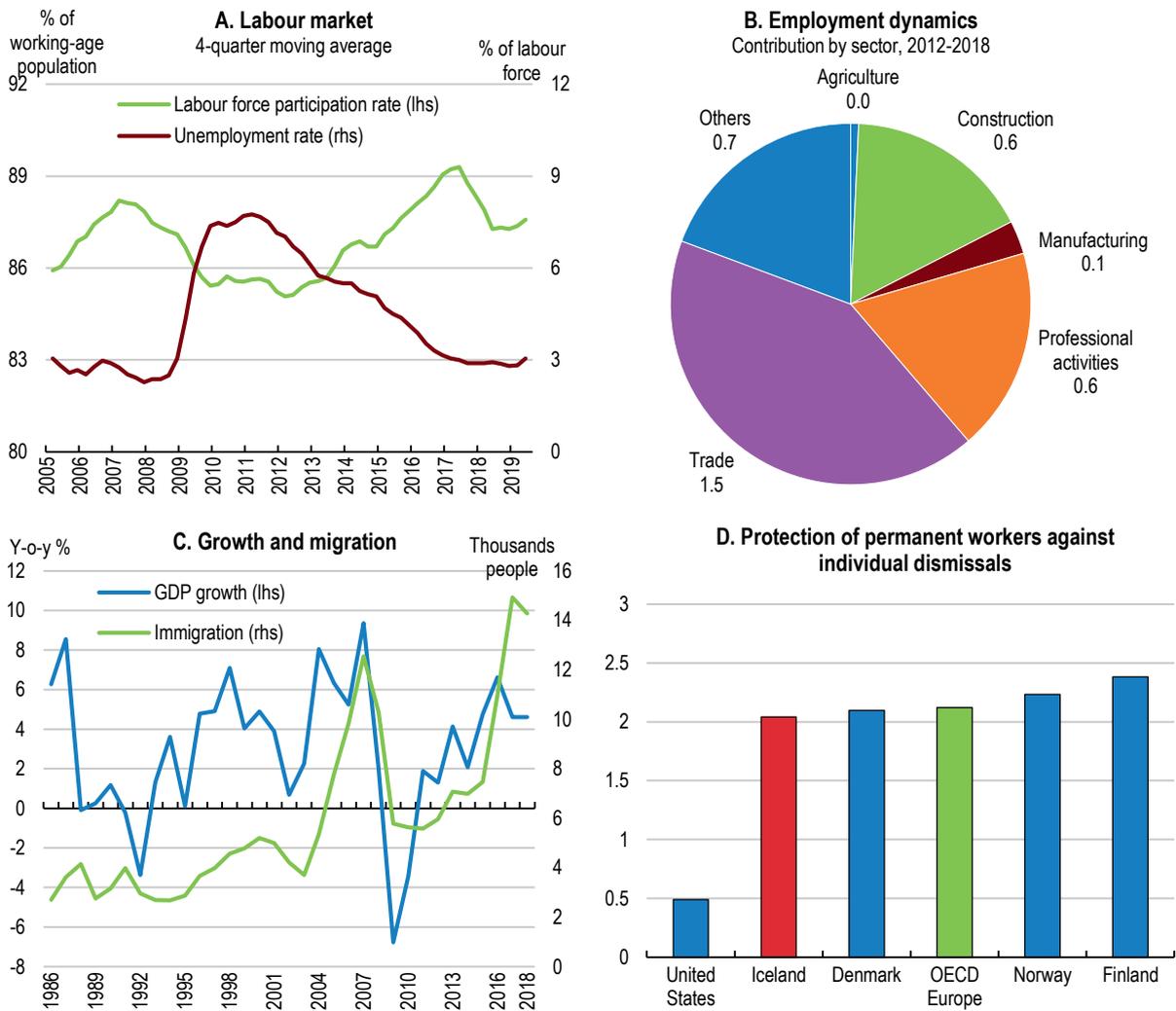


Source: OECD Economic Outlook database.

StatLink  <https://doi.org/10.1787/888933996201>

The tight labour market is easing, mostly because around 1000 workers or 0.5% of the labour force lost their jobs upon WOW’s collapse (Figure 4). Labour participation is also declining, but remains widely above OECD average for both men and especially women, mainly because of the high retirement age, few incentives for early retirement, a high share of the young working, and relatively generous support for working families with children. Wage growth is easing but remains solid in the wake of the April 2019 wage agreements. The Icelandic labour market remains quite flexible; companies can easily adjust their labour force, with labour immigration mostly from Eastern European countries acting as an automatic stabiliser. Indicators of the quality and inclusiveness of the labour market such as job security, small gender pay and employment gaps, or job strain, put Iceland often at the top ranking, although the incidence of low-pay work is little above the OECD average and well above other Nordic countries (OECD, 2018<sub>[2]</sub>).

**Figure 4. The labour market is easing**

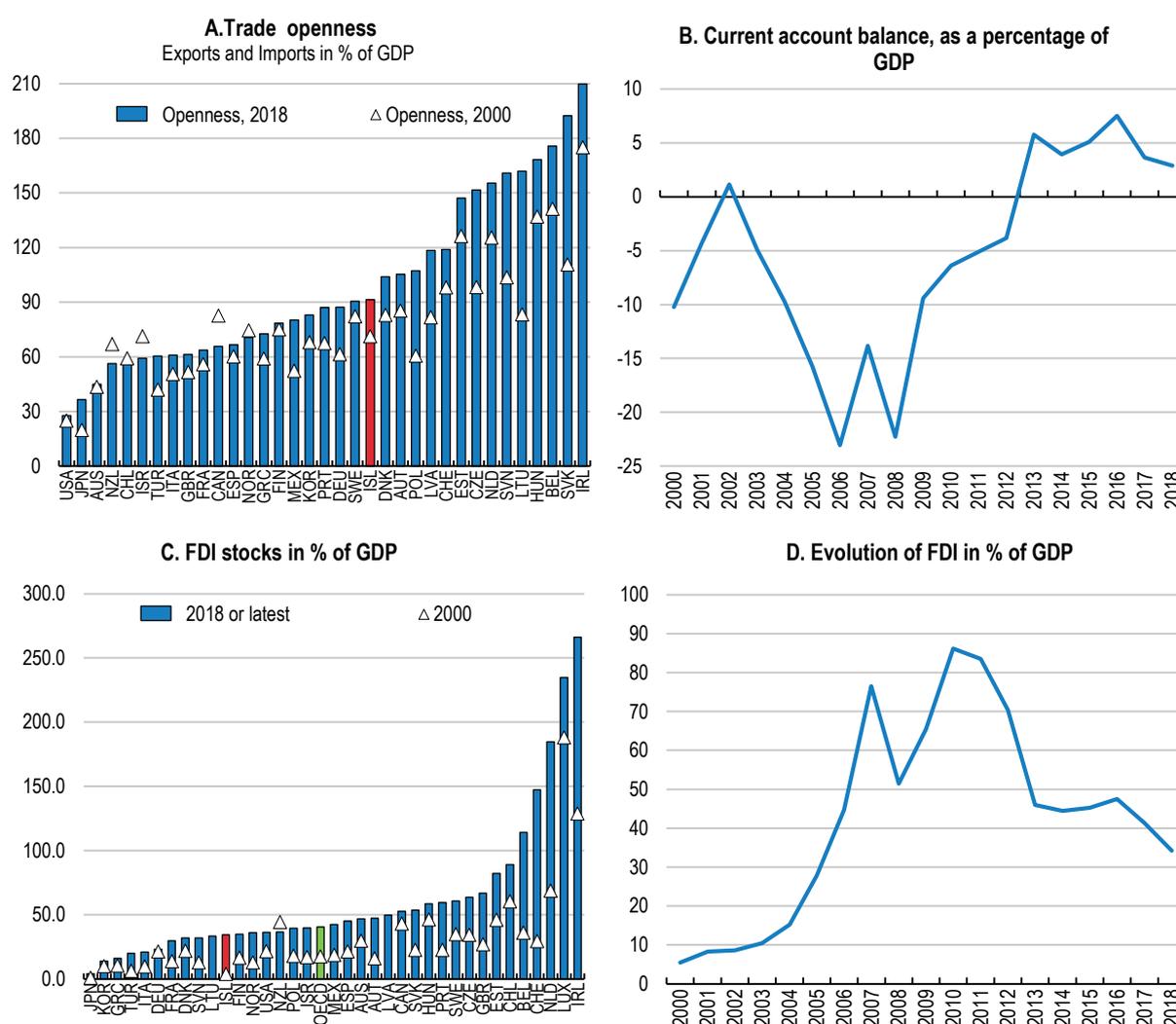


Source: OECD Analytical database, Statistics Iceland

StatLink <https://doi.org/10.1787/888933996220>

External positions are sound but the economy could be better integrated in the world economy (Figure 5). The current account has been positive for the past few years, although it is now narrowing due to worsening terms of trade and less foreign tourist income. Openness increased over the past 20 years, but remains relatively low considering the small size of the economy, partly because exports still rely more on commodities and fewer products altogether than other countries (Einarsson et al., 2013<sup>[3]</sup>). Although foreign direct investment (FDI) has risen from almost nothing 20 years ago to around 40% of GDP, it remains relatively low compared to other small countries. More FDI would not only improve the external balance, but could also foster knowledge transfer and boost productivity. Against this background, improving the climate for foreign investment could help compensate for slowing income from tourism, underpin Iceland's attractiveness and help sustain growth in the future.

**Figure 5. External positions are sound but the economy could be more open**

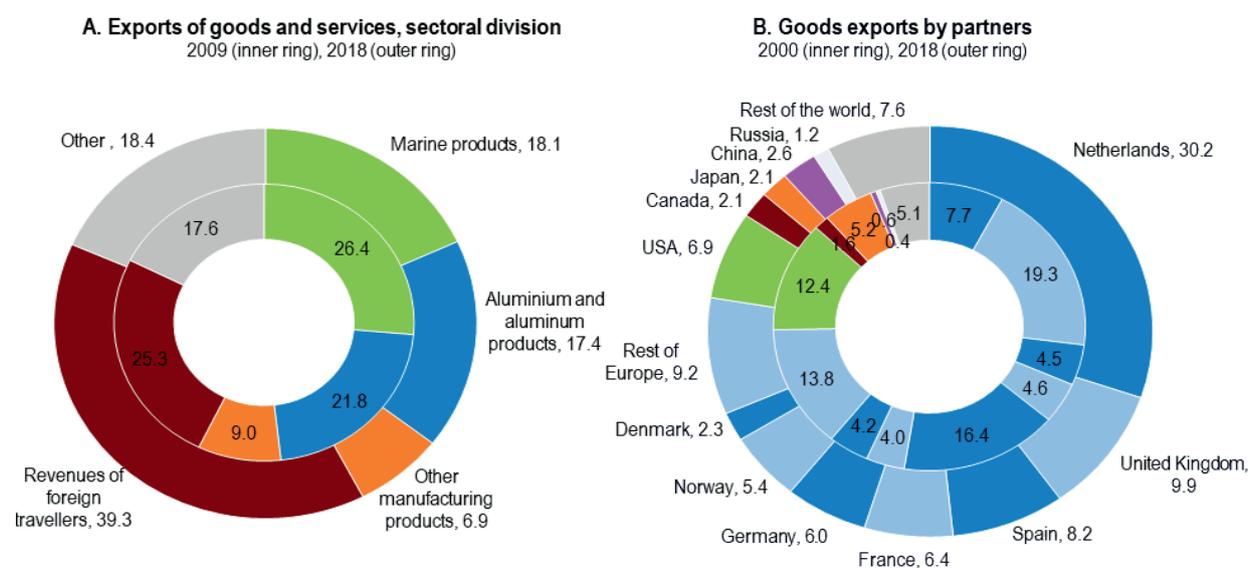


Source: OECD Economic Outlook database; OECD FDI database.

StatLink  <https://doi.org/10.1787/888933996125>

Service exports are growing faster than goods exports, mainly reflecting the growth of tourism now accounting for around two fifths of total export income and making the export structure less diversified than 10 years ago (Figure 6). The country's goods export destinations also changed, with the European Union becoming more important, while the share of exports going to the US declined. Tariff wars and looming overcapacity in the aluminium industry have had no discernible impact on Iceland's exports so far, yet depreciation of the British Pound and uncertainty surrounding Brexit slows exports to the United Kingdom. While a "resource curse" – i.e. being trapped in the low-productivity commodity export sector – does not seem an imminent problem, Iceland has to ensure a diversified export portfolio and a move towards knowledge-intensive export industries to boost productivity and sustain growth. Recent developments in the pharmaceutical sector and, in particular, the emergence of a data storing and processing industry, which benefits from low energy prices, are promising. However, these industries require adequate policy support such as targeted investment in education and/or infrastructure.

**Figure 6. Tourism drives Iceland's export growth**



Source: Statistics Iceland; Comtrade database. Exports through Dutch ports partly explain the large share of the Netherlands (Gudjonsson, 2015<sup>[4]</sup>).

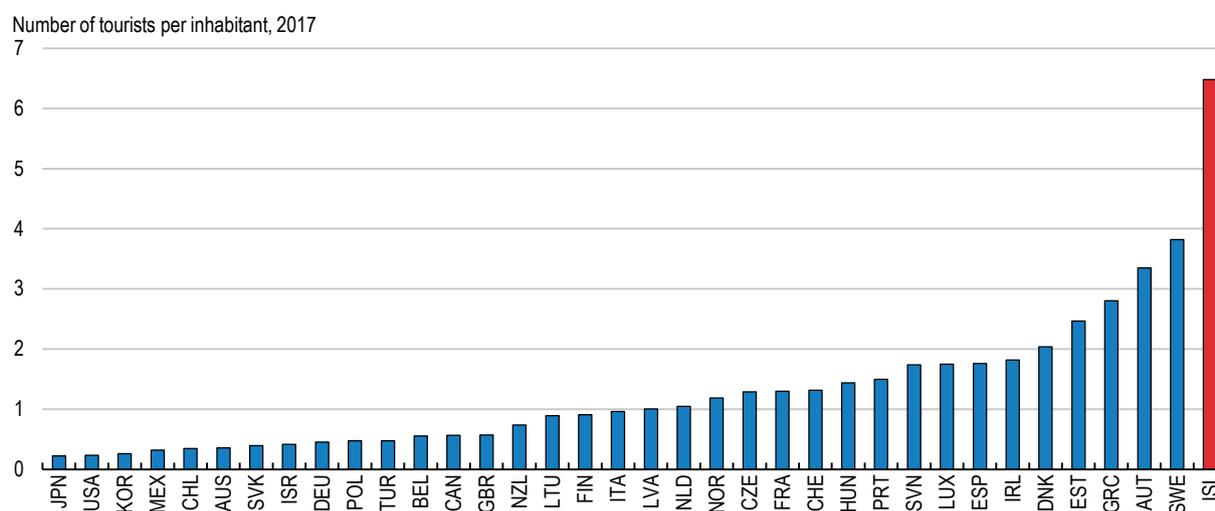
StatLink  <https://doi.org/10.1787/888933996239>

Tourism growth may have reached its sustainable potential (Figure 7). With around six tourists annually per resident, the country could already have passed the point where the negative economic, social and environmental impacts might exceed the positive impulse for the economy (McKinsey&Company, 2017<sup>[5]</sup>). Continuing to welcome foreign tourists while addressing Iceland's vulnerability, the government should develop a comprehensive tourism strategy, which involves all stakeholders and vies for high-value-added and environmentally sustainable tourism, as suggested by the 2017 *OECD Economic Survey* (Table 2. Policies should include the removal of tax privileges for tourism services, a better geographical distribution of tourists across the country, limiting and/or pricing access to environmentally fragile sites and areas, and cost-benefit analysis, including social and environmental impacts, for infrastructure projects.

**Table 2. Past OECD recommendations on tourism**

Establish an inter-ministerial tourism strategy focused on making tourism environmentally, socially and economically sustainable. This should include non-government stakeholders.	Inter-ministerial work on a policy framework is underway.
Limit the number of visitors to fragile sites. Introduce user fees to manage congestion and pressure on the environment.	Access to fragile sites and national parks can be temporarily suspended. A working group is reviewing a user fee strategy. Parking fees were introduced in a few rural areas
Subject infrastructure investment to cost-benefit analysis, including consideration of social and environmental impacts.	No action taken
Remove current tax subsidies for tourism-related activities, by taxing them at the standard VAT rate and broadening the base to excluded services.	In 2015 VAT-rates were increased to 11% for most tourism-related service and in 2016 the tax base was broadened.s
Improve the economic analysis of tourism activity, with better data and research.	A special research and analysis department has been established at the Icelandic Tourist Board

Important downside risks to the outlook mainly derive from a worse-than expected decline in external conditions, resulting in a larger downturn of tourism or falling export prices. A hard Brexit could dent trade relations with the United Kingdom (Central Bank of Iceland, 2019<sup>[6]</sup>). Rising inflation following a weaker krona and rapidly growing wages would also slow down growth. Some low-probability extreme shocks could derail the economy (Table 3).

**Figure 7. Has Iceland hit peak tourism?**

Source: OECD tourism database.

StatLink  <https://doi.org/10.1787/888933996258>

**Table 3. Possible low-probability extreme shocks to the Icelandic economy**

Shock	Possible impact
Weak tourism demand following a strong economic decline and/or changing preferences in origin countries	Strong decline in revenues from tourism export, rising unemployment in various sectors linked to tourism
Large drop in fisheries or in aluminium prices	A strong decline would worsen the current account balance
Breakdown of multilateralism	A breakdown of the liberal world order and new trade barriers would hit Iceland's exports

### The monetary policy framework is well established

Iceland significantly reformed its monetary policy framework after the financial crisis with the inflation target complemented by foreign exchange interventions, macroprudential tools, stronger regulation of foreign exchange liquidity risks of banks, and capital flow management. The reformed framework, known as “inflation targeting plus”, has served Iceland well. In particular:

- *Exchange rate interventions*: Limited central bank interventions in the foreign exchange markets have helped smooth excessive short term króna volatility. From 2013 until mid-2017, policy was more interventionist, to build reserves and mitigate the risk of an overshooting of the exchange rate in the run-up to capital account liberalisation (IMF, 2018<sup>[7]</sup>).
- *Macro-prudential tools*: Macro-prudential tools help Iceland guard against financial shocks, strengthening financial stability by preventing undue risk-taking by lenders and borrowers alike. Banks are subject to rules on foreign exchange balance and various capital and liquidity buffers, and the housing sector is subject to loan-to-value caps and constraints on foreign exchange lending (Table 4). Recent OECD analysis suggests that such instruments are associated with fewer cyclical downturns (Cournède, Sakha and Ziemann, 2019<sup>[8]</sup>).
- *Capital flow management*: Introduced in the aftermath of the 2008 crisis to curb destabilising capital movements, nearly all capital controls have now been phased out. A special reserve ratio (SRR), introduced in 2016 in the form of withholding requirement on specific capital inflows, has been reduced to 0% in March 2019 (Box 1).

Preconditions for a successful “inflation targeting plus” framework are well in place, including a strong financial oversight with prudential limits on banks’ international activities, well-capitalised and liquid banks, and an adequately funded pension system. This is important to address vulnerabilities and guard against risks associated with disorderly capital flow movements.

**Table 4. Prudential regulations: A summary**

Caps on LTV-ratios	85-90%
Capital flow management measure (CFM)	Lowered to 0% in March 2019
Restrictions on FX lending to unhedged borrowers	High restriction on lending to unhedged households
Net stable funding ratio	For 1 year in foreign currency
Liquidity coverage ratio	100% over the next 30 days
Leverage ratio	3% of Tier 1 capital
Rules on foreign exchange balance	10-15% of capital base
Systemic risk buffer	3%
Buffer due to systemic importance	2%
Countercyclical buffer	1.25% (1.75% from mid-May 2019 and 2% from February 2020)
Capital conservation buffer	2.5%
<b>Combined capital buffer required</b>	<b>8.75%</b>

Source: Central Bank of Iceland.

### Box 1. Turning the page on capital controls

Iceland is an example for successful policy normalisation after a deep crisis. The capital controls introduced in the aftermath of the 2008 crisis were gradually removed. Controls on capital flows were removed in October 2016 and January 2017, and an agreement was reached with several of the largest offshore króna holders in March 2017 (IMF, 2017<sup>[9]</sup>; OECD, 2017<sup>[10]</sup>). Offshore króna were carry trade inflows trapped in Iceland when capital controls were introduced. The removal did not cause any undue financial turbulence, according to the central bank's assessment, but only short-lived and moderate foreign exchange rate volatility.

Plans to release the last offshore króna assets locked in by capital controls were announced in December 2018 and legislated in March 2019. These policy actions put Iceland on the path of terminating the derogation it invoked post-crisis. The offshore króna initially accounted for 40% of GDP in 2008, but were brought down to around 4% of GDP in March 2017, transferred to special accounts with restrictions, thereby neutralising risks of disorderly currency outflows arising from these assets.

The special reserve ratio (SRR) on capital inflows for investments in the domestic bond market, introduced in 2016 to discourage investment in high-yielding fixed-income assets arising from carry trade, was gradually reduced. The SRR initially entailed a 40% unremunerated withholding requirement for investment in certain types of securities during one year. The requirement was lowered to 20% in November 2018 and then to 0% in March 2019, as the interest rates differential narrowed and inflows motivated by carry trade fell. The SSR appears to have affected the composition of capital inflows and possibly total volume controls (Forbes, 2018<sup>[11]</sup>). It is advisable that the SSR rate be kept at zero whenever possible and treated as a third line of defence, after conventional policy, including foreign exchange market interventions, and macro-prudential tools. The SRR is a capital flow management tool rather than an outright capital control and is in line with Iceland's commitments under the OECD Capital Movements Code.

Remaining capital controls, including restrictions on derivatives trading for non-hedging purposes, will be examined in due course as part of a comprehensive review of the Foreign Exchange Act (Central Bank of Iceland, 2019<sup>[12]</sup>).

### ***Further reforms to the monetary policy framework are underway***

In October 2018, the government launched a wide-ranging review of the statutory framework for monetary and macroprudential policy, and financial market supervision based on the proposals of expert committees (Government of Iceland, 2018<sub>[13]</sub>). Guiding the review is the merging of the Central Bank and the Financial Supervisory Authority (FSA) into a single institution, called the Central Bank of Iceland. The legislation bill on the merger was submitted to Parliament in March 2019 and approved in June 2019 and is to take effect on 1 January 2020. The bill is not intended to change the tasks entrusted currently to the two institutions. It proposes, however, a new decision making-structure comprising three committees that lead, respectively, activities in the areas of monetary policy, financial stability and financial supervision (Central Bank of Iceland, 2019<sub>[14]</sub>). According to the bill, all decisions currently entrusted to the FSA will be taken by the Financial Supervisory Board, while decisions on financial stability, at present taken by the Central Bank and the Financial Supervisory Authority on the basis of recommendations from the Financial Stability Council, will be transferred to a single body, the Financial Stability Committee. The key objectives of the Central Bank after the merger will be to promote price stability, financial stability, and sound and secure financial operations.

The integrated approach to financial sector oversight is welcome since it avoids institutional fragmentation and has the potential of enhancing synergies between regulatory and oversight functions. Nevertheless, it is important to ensure that regulatory and operational functions remain separated to facilitate effective supervision. The three committees to be responsible for decision-taking under the new structure need to be well-co-ordinated.

While financial stability is in some cases part of the mandate of inflation-targeting central banks, a clear mandate to pursue price stability is an essential feature of the monetary policy regime. It is therefore welcome that the authorities are working towards the creation of an operational framework that allows interactions between the committees deciding on monetary and financial policy and ensures that price stability and inflation targeting remain the guiding principles of monetary policy.

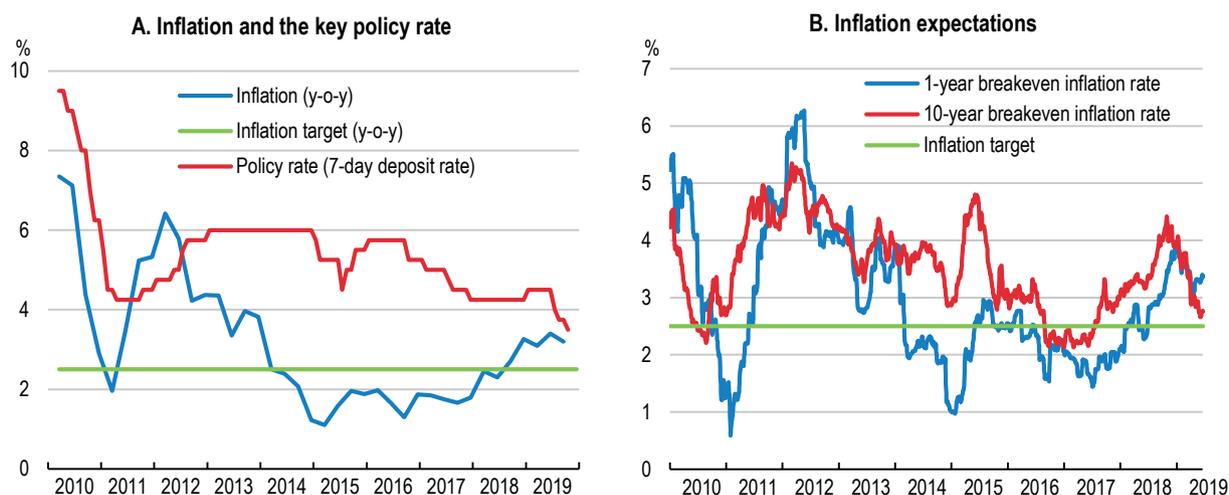
The inclusion of housing costs in the inflation target has been recently an issue of debate. A government-commissioned task force on the monetary policy framework suggested that such costs, accounting for over a fifth of the consumption basket in Iceland, are excluded to avoid potential conflict between price stability and financial stability objectives (Government of Iceland, 2018<sub>[13]</sub>). The measure of inflation should remain comprehensive, in line with the practice of the Central Bank. While trimmed measures of inflation excluding volatile items could inform policy, as is conventional practice among inflation-targeting central banks, the target should reflect all households' spending items to enhance transparency, accountability and trust in the target. It is also easier to communicate developments and monetary policy decisions based on the headline measure. At the same time, issues of house inflation need to be examined carefully.

### ***Monetary policy has eased but vigilance is needed***

Iceland's balance between domestic inflationary pressure and external disinflationary relief has become more fragile. The depreciation of the króna in the autumn of 2018 coupled with buoyant domestic demand on the back of increasing wages and a positive, albeit declining, output gap pushed inflation above the target of 2.5%, after four years of undershooting (Figure 8). The central bank appropriately increased the policy rate by 0.25 basis points to 4.5% in November 2018, the first hike since rates were lowered late 2017. With growth

slowing rapidly and inflation expectations declining, the bank lowered the rate to 4% in May 2019, 3.75% in June and 3.5% in late August. Real interest rates are historically low (Central Bank of Iceland, 2019<sup>[15]</sup>).

**Figure 8. Monetary policy is easing**



*Note:* Breakeven inflation rate is calculated from yield spreads between nominal and index-linked Government and Government-backed bonds (5-day moving averages). Daily data.

*Source:* OECD Analytical database, and Central Bank of Iceland.

StatLink  <https://doi.org/10.1787/888933996277>

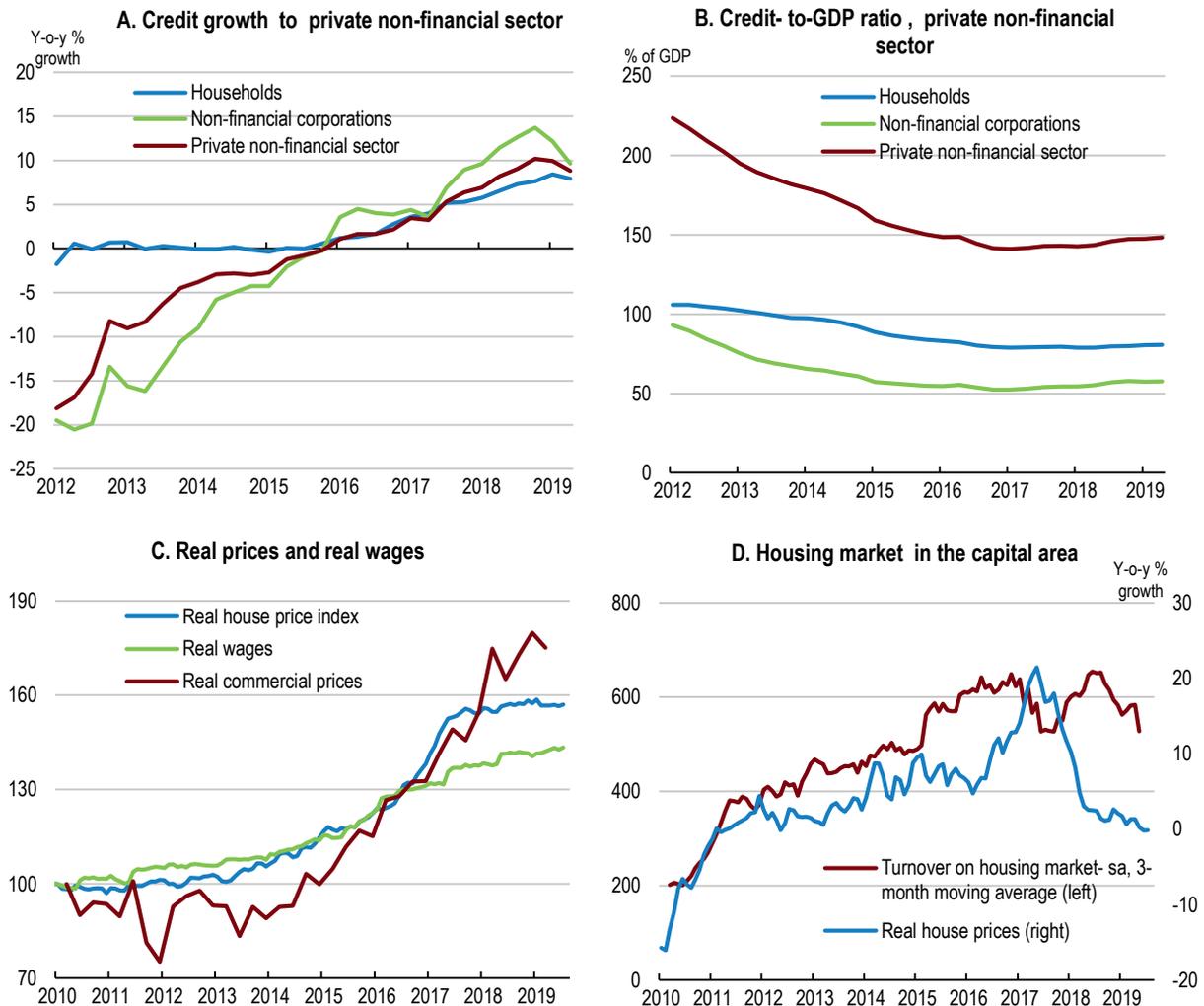
Several uncertainties surround the inflation outlook. These include pay rises in excess of productivity growth following the April 2019 wage agreement, and persistence of the exchange rate pass-through following depreciation of the króna. Monetary policy will need to follow developments closely, to ensure that inflation expectations remain well anchored and in line with the target. If inflation pressures materialise, the authorities should stand ready to tighten the monetary stance again.

### Safeguarding a resilient financial sector

Developments in the financial sector have improved (Figure 9). Financial conditions are supportive, with a robust increase in credit especially for businesses despite some recent easing (Central Bank of Iceland, 2019<sup>[15]</sup>). Low private sector indebtedness and easing house price inflation mitigate the near term risk to financial stability. In particular, a robust supply response – *i.e.* construction –, less immigration, and a slowing tourism sector affecting demand for Airbnb, contribute to an easing housing market. However, real house prices remain high in historical perspective, and they are rising fast outside the capital area. Housing affordability has been a contentious issue, and in the wake of the spring 2019 wage settlements, the government agreed on a set of social housing measures. Moreover, household debt, while still low, is picking up; and commercial real estate prices are expanding briskly and much faster than real wages. To enhance the banks' resilience against potential credit losses, the counter-cyclical buffer was raised by 0.5 percentage points effective from mid-May 2019, to be raised further by 0.25 percentage points from

February 2020. The authorities should remain vigilant and stand ready to tighten prudential measures if signs of systemic risks emerge.

**Figure 9. Conditions in the financial sector have improved**



Source: Central Bank of Iceland; OECD Economic Outlook database.

StatLink  <https://doi.org/10.1787/888933996296>

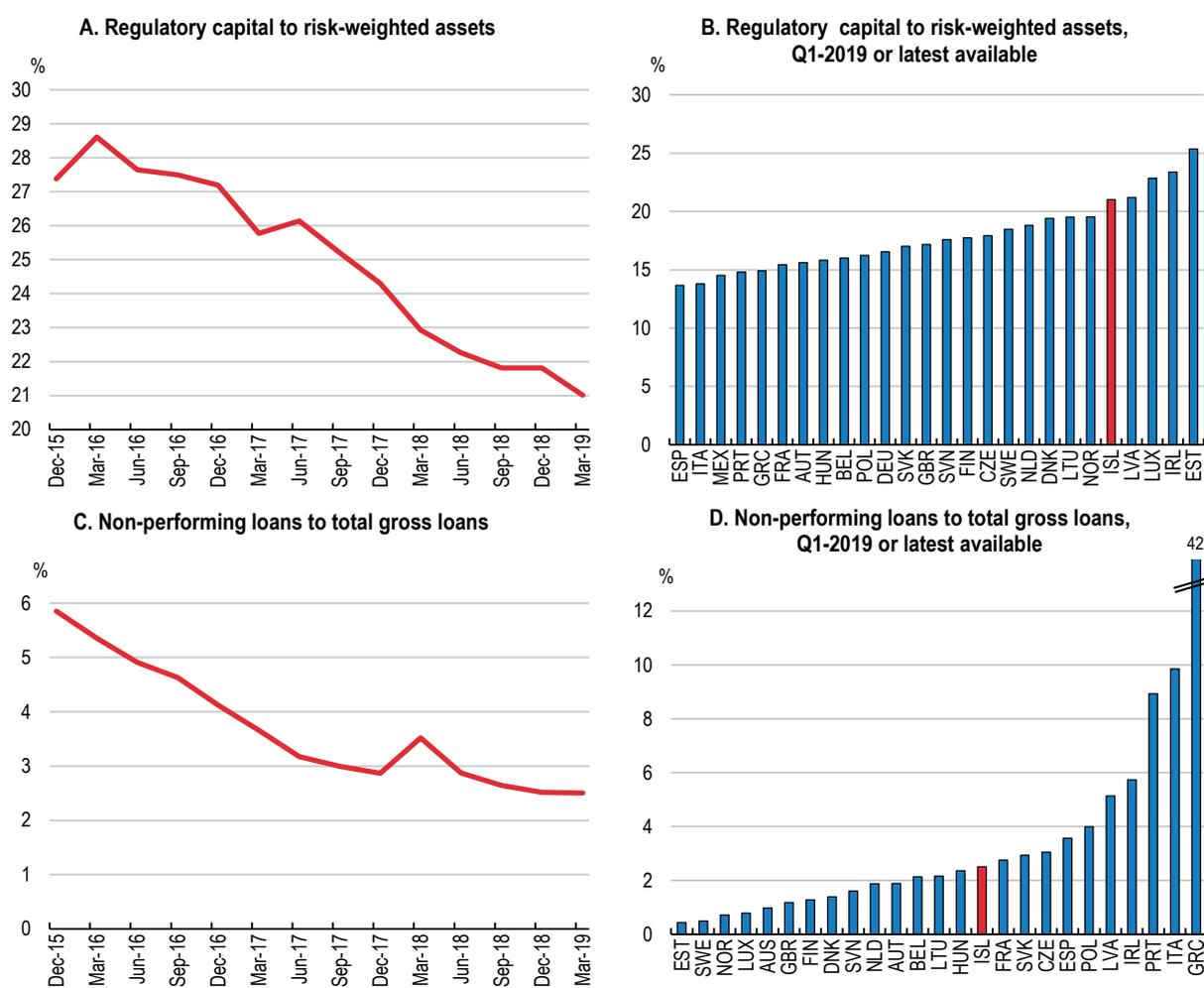
The banking system is considered sound, following its complete overhaul in the aftermath of the crisis (IMF, 2018<sup>[7]</sup>). The authorities consider that banks are well capitalised and that banks' liquidity is above the required level. The non-performing loans are on a downward trend (Figure 11). Based on its stress tests, the central bank concludes that the banking sector can weather a significant slowdown in tourism as capital buffers have been increased during the upswing (Central Bank of Iceland, 2018<sup>[16]</sup>). Lending to the tourism sector accounted for approximately 10% of total bank lending in 2018.

Iceland's banking sector is state-owned to a significant degree. Despite recent disinvestment, the government still owns two of the three main banks, with a 98% share in Landsbankinn and a 100% share in Islandsbanki. The authorities should proceed with

privatisation plans of the state-owned banks, while ensuring sound post-privatisation ownership and management, thereby minimising risks in the future.

Recently anti-money laundering efforts have been stepped up. According to the June 2019 follow up to the 2018 Financial Action Task Force (FATF) mutual evaluation report (an intergovernmental organization monitoring money-laundering), Iceland is currently rated as “compliant” in 14 out of 40 priority areas identified by the report, compared to 5 areas in 2018, while it has almost halved the number of “partially compliant” and “non-compliant” ratings. Staff working on financial crime-related issues was also tripled (IMF, 2018<sup>[7]</sup>). Efforts towards addressing remaining weaknesses in the existing anti-money laundering/counter-terrorist financing framework are important to minimise risks to financial stability, especially after the lifting of most capital controls in 2017. Going forward the 2018 FATF report recommends enhancing internal co-operation and co-ordination to effectively continue combat financial crime (FATF, 2018<sup>[17]</sup>).

**Figure 10. The banking sector appears sound**



Source: IMF, Financial Soundness Indicators

StatLink  <https://doi.org/10.1787/888933996315>

**Table 5. Past OECD recommendations on monetary and financial policies**

Monetary policy should be ready to tighten, should inflation expectations rise again	The Central Bank raised the policy rate by 0.25% in autumn 2018 but it lowered it gradually to 3.5% by August 2019
Smooth excess short-term exchange rate volatility. Use macro-prudential tools in accordance with international agreements to manage potentially destabilising short-term capital flow	Capital controls have been lifted further and are virtually dismantled by now. Macro-prudential tools are largely in line with international agreements
Tightening macro-prudential policies should be considered to ensure that asset price inflation does not gather additional steam	Macro-prudential buffers have been increased. House price inflation has eased

## Fiscal policy for inclusive growth

Ten years after the crisis, fiscal positions are sound (Table 6). The budget balance has been in surplus for several years, while gross public debt according to the National Accounts definition stands at around 60% of GDP and continues to decline further. The fiscal stance has become more prudent. This stands in stark contrast to the situation ten years ago when the country had to spend around 70% of GDP for recapitalising and restructuring the banking sector and to protect the most vulnerable from the fallout of the crisis (Figure 11). Prudent consolidation brought both deficits and debt gradually down, aided by a one-off stability contribution from the failed banks, accounting for 16% of GDP in 2016. Taking advantage of these fiscal revenues, the government injected around 5% of GDP into the first-pillar public pension fund, switching it from unfunded to funded-based. Contingent liabilities remain sizeable but continue to decline.

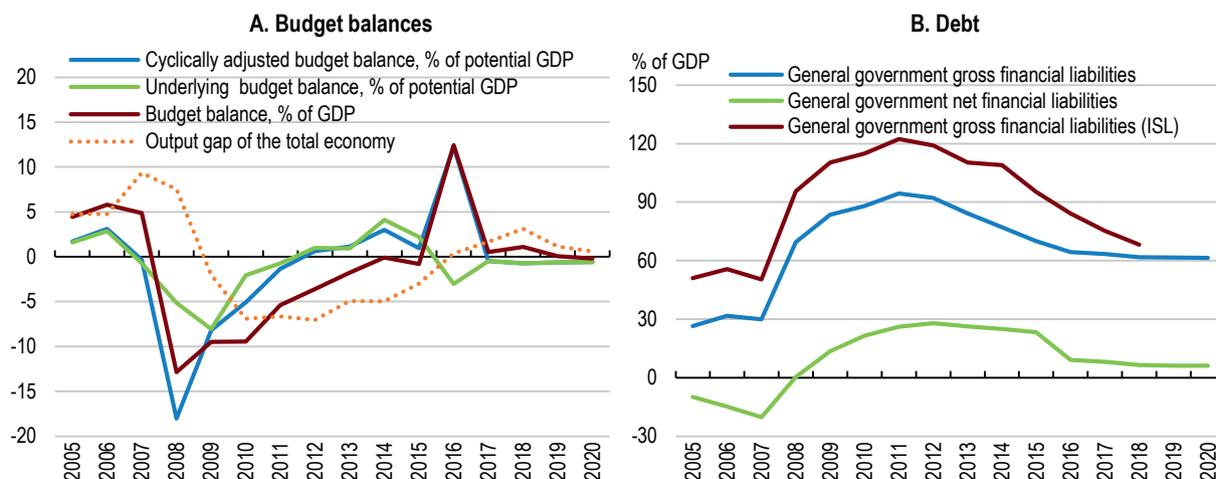
**Table 6. Fiscal overview**

Main fiscal aggregates 2005 and 2017, percent of GDP

	2005	2017
Gross financial liabilities	26.4	63.4
Net financial liabilities	-9.8	8.1
Budget balance	4.4	0.5
Total revenue	45.8	43.8
Tax on individual income	13.7	14.3
Tax on corporate income	1.9	3.1
Taxes on property	2.6	2.1
Taxes on sales and services	16.2	12.5
Other Taxes	1.9	2.2
Social contributions	3.1	3.4
Other revenue	6.3	6.3
Total expenditure	41.3	43.3
Social protection	8.8	9.7
General public services	5.1	8.1
Health	7.9	7.6
Education	8.2	7.5
Economic affairs	5.7	4.7
Other expenditure	5.7	5.7

Source: OECD National Accounts, Statistics Iceland.

Figure 11. Debt is declining more slowly



Note: The difference in gross financial liabilities between the OECD and Iceland essentially reflects different accounting of pension funds.

Source: OECD Economic Outlook 105 database; Statistics Iceland.

StatLink  <https://doi.org/10.1787/888933996334>

### *The fiscal framework can be strengthened further*

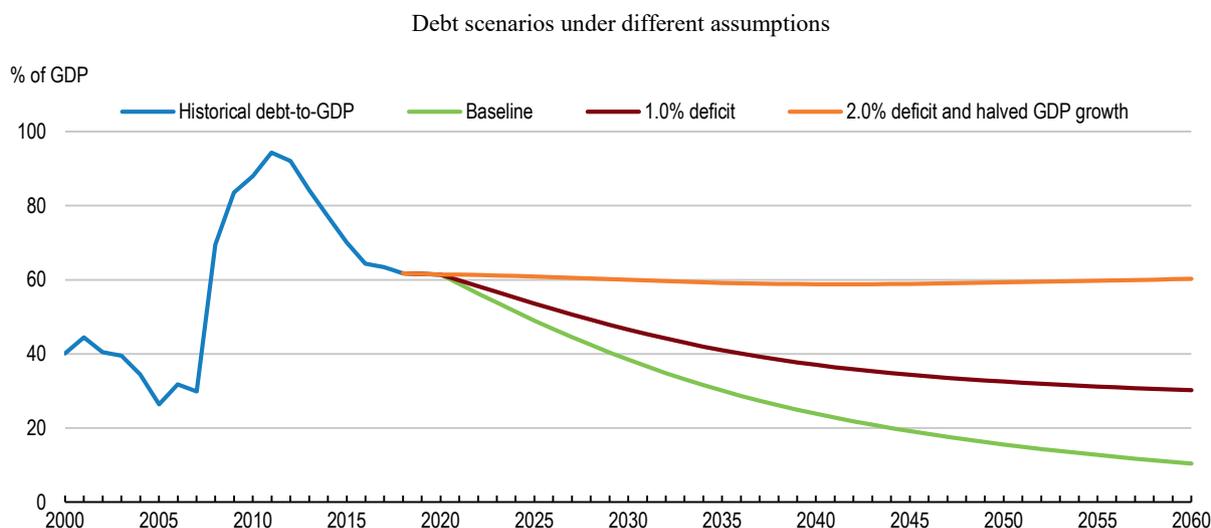
After the crisis, the fiscal framework underwent considerable reform with the adoption of a new public finance law in 2016. In particular, the new law introduced numerical fiscal rules and established an independent fiscal council. The law has now gone through more than two years of operation under three different governments.

- The two numerical fiscal rules consist of 1) a budget balance rule, requiring the annual deficit to remain below 2.5% of GDP, and the budget to be balanced over a five-year period; and 2) a debt rule requiring net debt (national definition) exceeding 30% of GDP to be reduced by 5% on average over three-years. The rules are relatively simple – in particular, they do not rely on potential output – and, despite being rather stringent, have been followed so far.
- The fiscal council has so far been cautious, focussing on procedural aspects and budget transparency rather than on a substantive assessment of fiscal policy. Its position is relatively weak in comparative perspective, mainly because of a limited remit and a lack of resources (von Trapp and Nicol, 2018<sup>[18]</sup>). Providing the council with more resources and improving collaboration with other independent bodies like the national audit office could strengthen its role.

While the fiscal framework has served Iceland well so far, it can be strengthened further, especially as some scenarios point to a dogged debt burden (Figure 12). Although the size of fiscal buffers needed in a severe downturn is difficult to estimate, one should bear in mind that public debt rose by more than 60 percent points during the 2008-09 crisis. Moreover, contingent liabilities arising from state guarantees for the Housing Fund and the national power company *Landsvirkjun* are still sizeable at around 35% of GDP. Finally, Iceland is not immune to the costs of ageing, although a low old-age dependency ratio, birth rates slightly above the OECD average and the high and rising retirement age help keep them under control (see also chapter 2). As such, it could be useful to build additional

buffers by reducing debt more rapidly. Establishing an expenditure rule could be another option, to help reduce pro-cyclical spending.

**Figure 12. Debt will decline further but only if fiscal policy remains disciplined**



*Note:* The projections are based on the OECD Economic Outlook No. 105 until 2020. From then on, long-term GDP growth is assumed to stand at 2.5% and inflation at the target (2.5%). The implicit interest rate on public debt is assumed to be 5%. The baseline scenario assumes a long-run balanced budget. The second scenario assumes a 1% long-run deficit. The third scenario assumes a 2% deficit and a long-run growth rate of 1.25%. All scenarios reflect the gradual rise of the pension age to reach 70 years by 2042.

*Source:* OECD Analytical database.

StatLink  <https://doi.org/10.1787/888933996353>

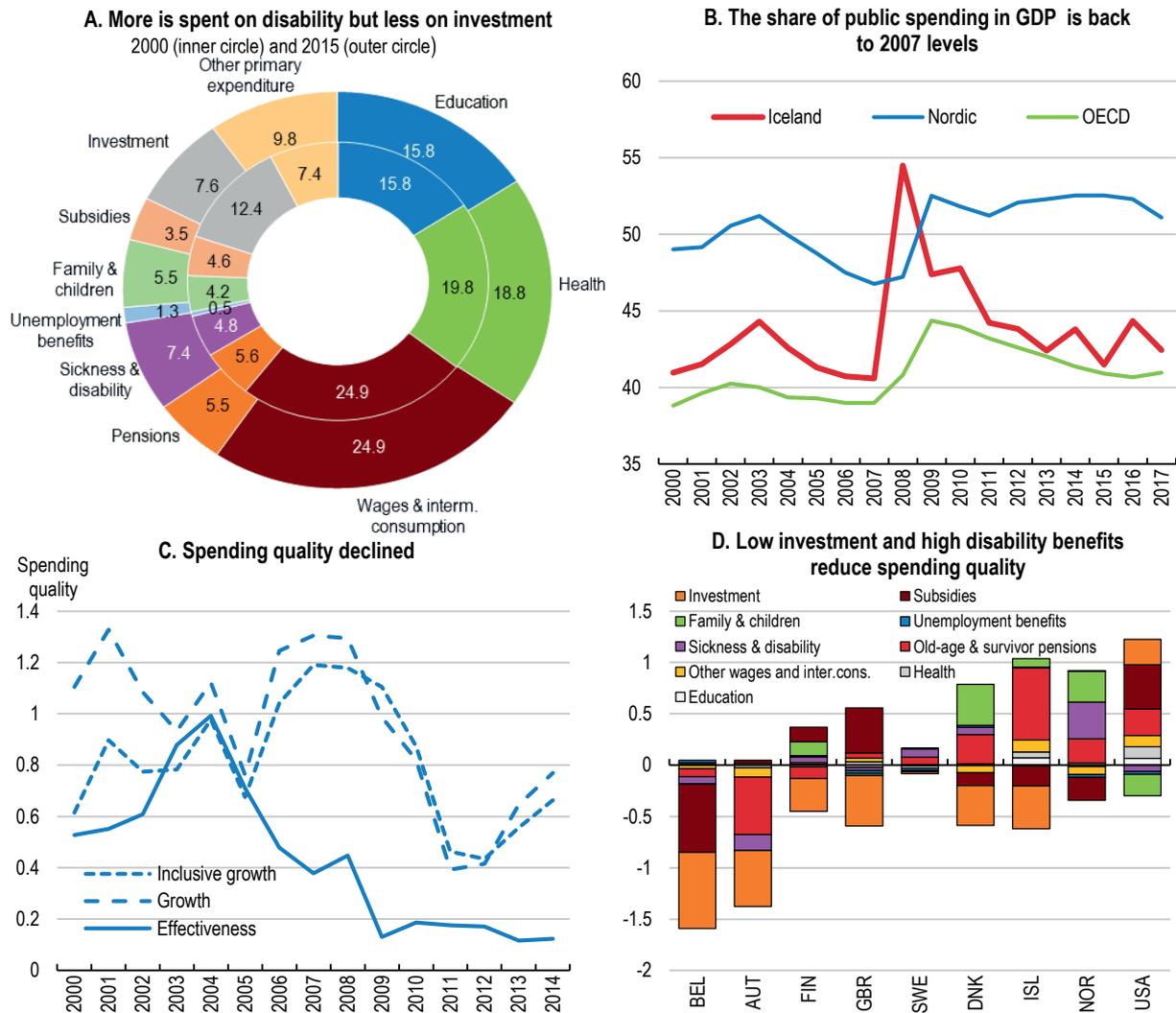
Local governments, accounting for around one-third of general government, also improved fiscal positions, but pro-cyclical policy remains an issue. In 2011, the government tightened local government finances by introducing a budget balance and a debt rule. The three-year horizon of the budget balance rule makes counter-cyclical budgeting difficult for the municipalities. After painful consolidation, virtually all municipalities now remain within the limits of the local rules. Yet fiscal equalisation is still highly pro-cyclical since it relies on general government tax revenues, exacerbating pro-cyclical of local budgets. Against this background, a reform of the municipal equalisation fund to better smooth municipal revenue volatility would be useful.

### ***Improving the quality of spending***

The quality of public spending – i.e. the contribution of spending to growth and a more equal income distribution – has declined until recently (Figure 13). While the government increased social spending to protect the most vulnerable from the fallouts of the crisis, the share of spending on education and on infrastructure so far failed to reach pre-crisis levels. Today spending quality is around OECD average. Pension spending in GDP is below average because of a high retirement age, which is conducive to employment and growth, while extensive disability benefits and low public investment put a drag on growth (Bloch and Fournier, 2018<sup>[19]</sup>). The medium-term spending plan of the government foresees considerable spending rises in tertiary education and infrastructure in transport

infrastructure and in the new central national hospital, while spending on disability is planned to rise below average, which is welcome.

**Figure 13. Spending quality declined**



*Note:* The three spending quality indicators measure the contribution of the public spending mix to growth (“growth”); to growth and equality (“inclusive growth”); and to growth taken government size and effectiveness into account (“effectiveness”). Indicators are derived from a set of regressions linking public spending and other determinants to long-term growth of around 30 OECD economies. All indicators measure spending quality relative to the OECD average.

*Source:* Preliminary OECD Public finance database.

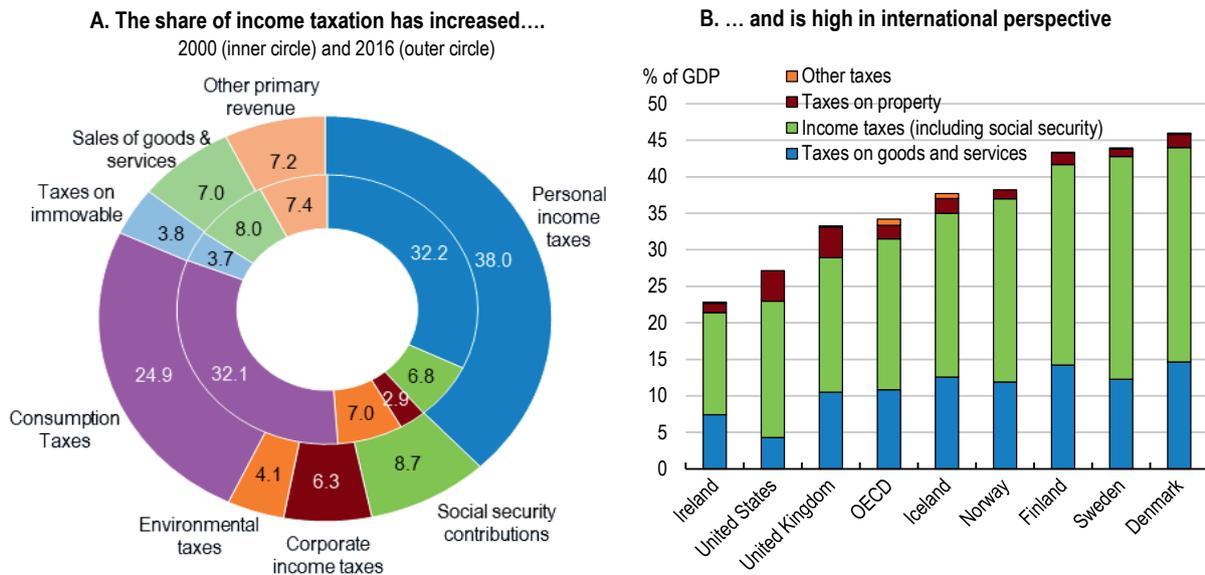
StatLink  <https://doi.org/10.1787/888933996163>

Improving spending effectiveness, could both help improve performance in the public sector and free up scarce resources. Effectiveness has been on the decline for long (see chapter 2). Despite above-average education spending, educational outcomes are relatively poor. Problems also loom in other sectors where outcomes are often not commensurate with what is being spent. Against this background and as pointed out in earlier *OECD Economic Surveys*, spending reviews, linking spending with performance targets, could help identify opportunities to increase public sector performance. The government recently started spending reviews in the ministry of justice and the ministry of industries and innovation. Since spending review is challenging technically and politically, the authorities might rely on international experience, e.g. spending reviews carried out in the United Kingdom or the Netherlands (see also chapter 2).

### Rebalancing taxation

The tax burden in terms of GDP is lower in Iceland than in other Nordic countries, even accounting for compulsory contributions of 4% of wage income to the private second-pillar pension funds, yet it is above the United Kingdom and the United States. The quality of taxation as measured by its contribution to inclusive growth declined since the crisis. The share of the personal income tax (PIT) in total taxation is high, while social security contributions, which are more distorting than PIT, are small (Figure 14).

Figure 14. Taxation relies strongly on income



Source: OECD Revenue Statistics.

StatLink  <https://doi.org/10.1787/888933996372>

By type of tax, key features of the current tax system and planned reforms are as follows (OECD, 2018<sup>[20]</sup>):

- *Income taxation:* Like in other Nordic countries, personal income is taxed at a progressive rate at the national and a flat rate at the local level. In 2019 average tax rates for low-income earners were slightly reduced. Corporate income tax is rather low at 20%, and R&D tax credits were broadened in 2018. The capital gains tax rate was raised to 22% in 2018, thereby narrowing the gap in the tax burden

between labour and capital income. The government plans a comprehensive income tax reform for 2020 involving: 1) lower tax rates for minimum-wage earners; 2) a new indexation mechanism to strengthen stabilization properties of income taxes; and 3) improved neutrality of the tax system with respect to gender and civil status.

- *Consumption taxes:* Value-added tax (VAT) rates are above the OECD average but the VAT tax gap is high at around 45%. Several items are not taxed or at a lower rate, especially in services catering to tourists (OECD, 2018<sup>[21]</sup>). Since 2015 the government lowered the statutory VAT rate from 25.5% to 24% and increased the lower rate from 7% to 11%. Broadening the tax base and abandoning special rates, especially on tourist services, should go further, as it would allow reducing the statutory rate. Moreover, the turnover threshold for businesses to pay VAT remains low at around 14 000 US-Dollars, burdening the administration and inviting avoidance, and it should be increased.
- *Environment-related taxes:* Cars are currently taxed through a variety of ownership and fossil fuel taxes. Revenues from fuel taxes will decline in the long run following the planned energy transition and the rise of electric cars, requiring appropriate policy responses. In 2018 a working group published a set of proposals to simplify the car tax system, to promote domestic energy use and to reduce pollution. There is also a CO<sub>2</sub> tax embedded in fuel taxation, but it is low (see below), while agriculture and industry remain untaxed (OECD, 2018<sup>[20]</sup>). CO<sub>2</sub> tax rates are planned to rise in three steps by around 80% until 2020, which is welcome. To address distributional concerns, to avoid an unwarranted increase in the tax burden and to overcome political economy obstacles, CO<sub>2</sub>-tax proceeds could partially or fully be reimbursed to businesses and citizens, as done in Switzerland (OECD, 2013<sup>[22]</sup>).

Implementing tax reform and other recommendations from this Survey would improve the budget balance in the medium term (Box 2).

### Box 2. Quantifying fiscal policy recommendations

The following estimates roughly quantify the fiscal impact of selected recommendations within a 5-10 year horizon, using simple and illustrative policy changes. The reported tax effects include behavioural responses, while most spending effects do not.

Table 7. Illustrative fiscal impact of recommended reforms

Policy Measure		Impact on the fiscal balance, % of GDP
<b>Deficit-increasing recommendations</b>		
Lower personal income taxation	Reduce marginal tax rates by 1% point for all income groups	-0.3
Less tapering of child and family benefits	Reduce implicit marginal tax rates on benefits by half	-0.2
Increase public investment	Increase by 0.5% point to 2.0% of GDP	-0.5
<b>Deficit-reducing recommendations</b>		

Reduce disability benefits	Reduce spending on benefits by one-half of the increase since 2000 (from 3.1% to 2.6% of GDP)	+0.5
Increase environmental taxes	Increase CO2-taxes and reimburse the proceeds to businesses and citizens	0
Increase VAT revenues	Raise the VAT revenue ratio from 0.55 to 0.58	+0.5
Reduce subsidies	Reduce subsidies by one fifth (from 1.5% of GDP)	+0.3
<b>Total fiscal impact</b>		<b>+0.3</b>

### *Establishing a sovereign wealth fund*

The government intends to establish a sovereign wealth fund and submitted a draft bill to parliament. The primary role of the fund will be to mitigate adverse fiscal effects stemming from natural disasters or economic shocks such as the realization of contingent liabilities. The fund will build up primarily on dividends from *Landsvirkjun*, the national power company, and assets will be invested abroad. Disbursements will be contingent on a prescribed set of conditions and the approval of Parliament. Besides supporting stabilization and sustainability, a sovereign wealth fund could help overcome political economy obstacles to sound fiscal policy and efficient public spending. It would also help diversify risks and act as counterweight to capital inflows.

The pace of asset build up should be gradual, and in line with prudent fiscal policy objectives and priorities. An alternative to build up a fund can be winding down debt more rapidly, investing more in infrastructure or education, or reduce taxes, to boost potential growth (Box 3). The role of the fund should be clearly defined and its corporate governance framework should ensure that assets are professionally managed, the board is independent from political interference, and that the fund remains accountable to the public.

#### **Box 3. Sovereign wealth fund – a case for Iceland?**

Many commodity-exporting economies, including OECD member countries like Australia, Canada, Chile, Mexico or Norway, have set up so-called sovereign wealth funds. These funds are usually sourced with the revenues arising from natural resource exploitation and drawn down subject to economic and fiscal shocks. Assets are generally invested abroad. Sovereign wealth funds may help diversify risks, mitigate revenue volatility, help prevent Dutch disease, and underpin commitment to sound fiscal policy. They provide liquidity when in a crisis financial markets are closing to new debt. In some cases, funds can also help reduce exchange rate fluctuations or maintain a fixed exchange rate regime. Given the multitude of objectives, countries often set up more than one fund, usually separating funds with a long-term sustainability objective from those with a focus on short-term stabilisation.

Some features of its economy tend to make Iceland a less typical country to establish a sovereign wealth fund. While most funds are set up by natural resource exporters to address the macroeconomic implications of high price fluctuations, Iceland's export structure is more diversified, and terms of trade volatility is less pronounced than in many other commodity exporters. Moreover, Iceland's financial and economic crises were barely the consequence of volatile commodity exports. Finally, Iceland's natural resource depletion rate is close to zero as its resources are mostly renewable, which obviates the need to

accumulate reserves to balance a shrinking resource stock. Against this background, the macroeconomic role of an Icelandic fund might differ from most other funds. While commodity exporter's obvious strategy is to safeguard against price volatility and resource exhaustion, Iceland would have to hedge against volatility from fish, tourists and geothermal heat.

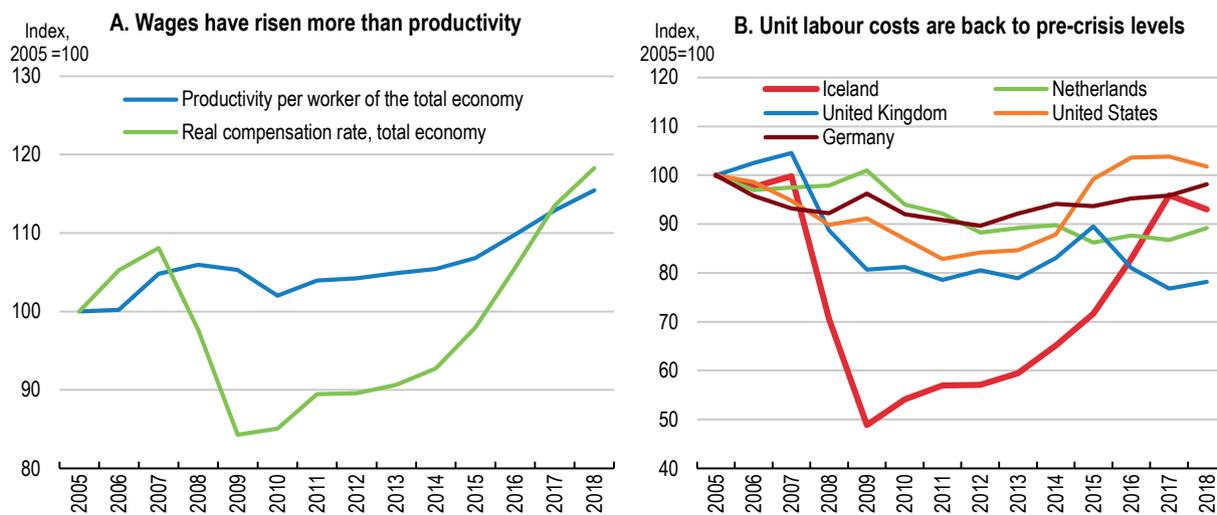
The merits of a sovereign wealth fund have to be set against the opportunity costs of competing investments. Winding down government debt more rapidly and saving on interest payments could be more beneficial than setting up a wealth fund bearing recurrent management cost and volatile returns. For example, Norway's global pension fund generated an average annual performance of around 6% over the past 20 years, while long-term interest rates in Iceland averaged around 7.5%. Moreover, investment into the fund must be set against public spending for productivity-enhancing policies such as education or infrastructure, or tax reductions, and their long-term impact on growth. Still a sovereign wealth fund may support the established budget framework further, help avoid long-term fiscal slippage and build up fiscal space. Moreover, the pace of asset build up could be adjusted to prevailing economic needs and policy objectives.

*Source:* (Einarsson et al., 2015<sup>[23]</sup>) (IMF, 2010<sup>[24]</sup>), (Kakanov, Blöchliger and Demmou, 2018<sup>[25]</sup>), (Norges Bank, 2018<sup>[26]</sup>), (OECD, 2012<sup>[27]</sup>), (World Bank, 2016<sup>[28]</sup>)

### Structural reform to improve competitiveness is needed

Iceland's competitiveness is declining. It rose sharply after the 2008 crisis following the devaluation of the króna and cuts in real wages, triggering the rapid recovery of the economy as the export sector expanded. Since then competitiveness deteriorated almost inextricably and is now where it was at the start of the crisis (Figure 15). While wages grew rapidly, productivity growth came almost to a halt and has only recently started to rise again, suggesting that the recovery was mostly driven by employment-rich service sectors such as tourism. Since wages are comparatively low in these sectors, this also affects inclusiveness. Finally, relatively low business investment may explain lacking productivity growth. Structural reforms recommended below or in the thematic chapter would boost productivity and growth considerably (Box 4).

Figure 15. Competitiveness is declining



Note: Higher values for unit labour cost mean lower competitiveness.

Source: OECD Analytical database

StatLink  <https://doi.org/10.1787/888933996106>

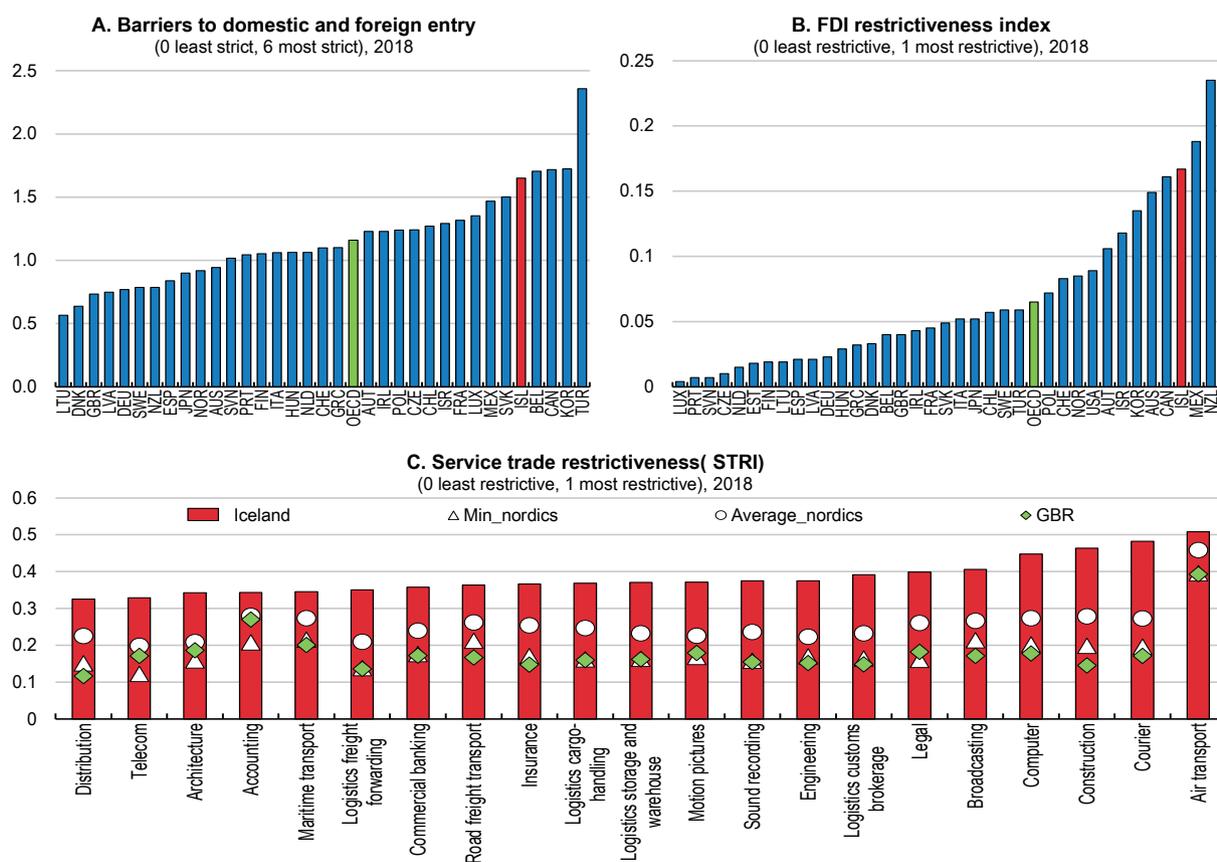
### Lowering the regulatory burden

The regulatory burden on Iceland's businesses is not commensurate with the needs of a small open economy. Regulation is widespread and stringent (Figure 16):

- Extensive product market regulation covers large swathes of the economy, with barriers to entry in the network industries and the service sector being particularly high. Administrative burdens for start-ups are high, holding back investment and innovation.
- Restrictiveness is high for all services and consistently higher than in the other Nordic countries, particularly affecting productivity in the domestic service sector.
- Restrictions to foreign direct investment are among the highest of the OECD, dampening employment and productivity gains through international capital and knowledge transfer.

Since regulation is restrictive across the board, the government should set up a comprehensive action plan for regulatory reform, prioritising reforms that foster competition, level the playing field between domestic and foreign firms and attract international investment. The OECD is currently carrying out a competition policy review for the construction and tourism service sectors, and the government should rapidly implement recommendations to reduce the regulatory burden.

Figure 16. The regulatory burden is high



Source: OECD 2018 Product Market Regulation database; OECD FDI Regulatory Restrictiveness Index database; OECD Services Trade Restrictiveness Index database.

StatLink  <https://doi.org/10.1787/888933996144>

The size of Iceland's public corporate sector accounts for around 2.5% of total employment, close to the OECD average, with state-owned enterprises (SOEs) active mainly in the network industries and banking (OECD, 2017<sup>[29]</sup>). Public ownership is particularly important in the electricity generating and distributing sector, with major companies owned by either the central government or groupings of municipalities. Companies investing in the energy industry require a license to operate and firms outside the European Economic Area are barred from direct investment. Moreover, the government still owns two of the three main banks; their privatisation is planned but no timeline has been set yet. SOEs might benefit from lower capital cost and other implicit advantages due to their public status, potentially distorting competition.

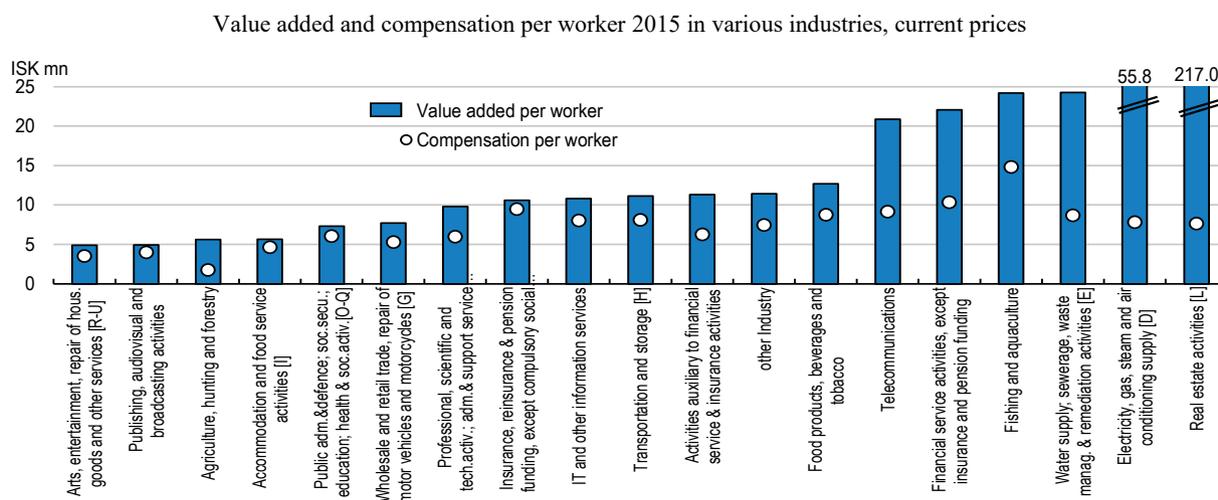
Iceland follows the OECD Principles of Corporate Governance and the OECD Guidelines on Corporate Governance of State-Owned Enterprises and in 2012 established a general state ownership strategy, which remains relatively generic however, making it difficult to assess objectives and performance of SOEs (Ministry of Finance, 2012<sup>[30]</sup>). As such, the government should define more clearly the policy objectives it wants to achieve by nurturing SOEs. In parallel, the government should ensure that SOEs – especially those operating in competitive markets – are subject to the same rules as private companies, to safeguard competition and productivity.

### *Productivity differs more than wages*

Productivity differs significantly across economic sectors. Iceland's export sectors such as fisheries or aluminium, competing on an international scale, traditionally produce high value added per worker. Productivity is more modest in the domestic sector, including services related to tourism, as markets are small and competitive pressures low, weakened further by tight regulation. Since the export sector generally depends on domestic inputs, developments in the domestic sector affect international competitiveness. Against this background, reducing the obstacles holding back domestic productivity, in particular a high regulatory burden, could strengthen the links between the domestic and external sector and help increase overall productivity and competitiveness.

The wide differences in productivity are in contrast to the relatively narrow differences in wages across sectors (Figure 17). A compressed wage structure is commendable, fostering inclusiveness and reducing pressure for costly redistribution (OECD, 2019<sup>[31]</sup>). However, the disconnect between productivity and wages across sectors might imply potential drags on long-term growth. *First*, in small open economies like Iceland, with wages largely determined by the export sector and then spilling over to the rest of the economy and the public sector, wage growth above domestic productivity increases inflationary pressures. *Second*, the small wage differences provide few incentives for workers to move from low to high productivity sectors. Over the past 15 years the size of the domestic sector remained largely unchanged at around 70% of the workforce (Federation of Icelandic Industrialists, 2018<sup>[32]</sup>). *Third*, a flat wage curve might discourage higher education, as investing in human capital and knowledge-intensive activities and sectors hardly pays off.

**Figure 17. Productivity differs more than wages across sectors**



Source OECD calculation on STAN database.

StatLink  <https://doi.org/10.1787/888933996391>

Improved labour relations could help manage wage developments, as pointed out in earlier *OECD Economic Surveys* (Table 8). Iceland is the most unionised country in the OECD, contributing to the relatively compressed wage structure. However, the Icelandic wage bargaining process is quite fragmented, with leap-frogging of wage demands potentially undermining competitiveness and creating inflationary pressures (SALEK, 2016<sup>[33]</sup>). The Icelandic social partners should build on the successful spring 2019 wage agreements, by

linking wage developments and productivity growth more closely (Box 4). The recent wage bargaining reforms in Finland as part of the 2016 “competitiveness pact”, which links wages more tightly to productivity developments, could serve as a model (OECD, 2018<sup>[34]</sup>). Moreover, the government should avoid offering social benefits during the negotiations, as this could lead the social partners to conclude agreements at the cost of the public purse.

**Table 8. Past OECD recommendations on improving labour relations**

To nurture trust all parties need to participate actively in the Macroeconomic Council.	As part of the spring 2019 wage settlement, social partners agreed to participate in the Macroeconomic Council
Establish a tripartite technical committee to provide reliable and impartial information to wage negotiators.	Work is ongoing, with participation of social partners and Statistics Iceland
Wage negotiations should begin with an agreement on “wage guidelines” for the negotiation round. State mediator (and arbitration bodies) should also base their proposals on these guidelines.	The spring 2019 wage agreements contain a link from GDP per capita growth to future wage growth
Increase the powers of state mediator, including the power to delay industrial action for a limited period in agreement with the social partners, in an effort to achieve a negotiated agreement	No action taken

#### **Box 4. The spring 2019 wage agreements**

In April 2019, employers and trade unions settled on a new collective wage agreement. The agreement covers the years 2019 to 2022, which is unusually long in view of the country’s negotiation history, reflecting growing trust in the stability and resilience of the economy. The agreement, while focussing on purchasing power of low-income earners, stressed macroeconomic constraints such as the need to keep inflation at bay and to avoid interest rate hikes. Negotiation outcomes were partly shaped by the insolvency of the WOW airline, directly affecting around 0.5% of the labour force.

Wages of low-income earners will go up by around 6% in 2019 and around 34% by 2022. The wage settlement also includes a set of government concessions such as tax reductions for low-income earners; more generous family benefits; and extensive support for affordable housing, which together will help raise disposable household income by more than 50% until 2022. Wages not subject to collective agreements will be negotiated in the course of 2019, with experience suggesting that individual wage settlements could considerably rise the overall wage bill, contributing to wage drift.

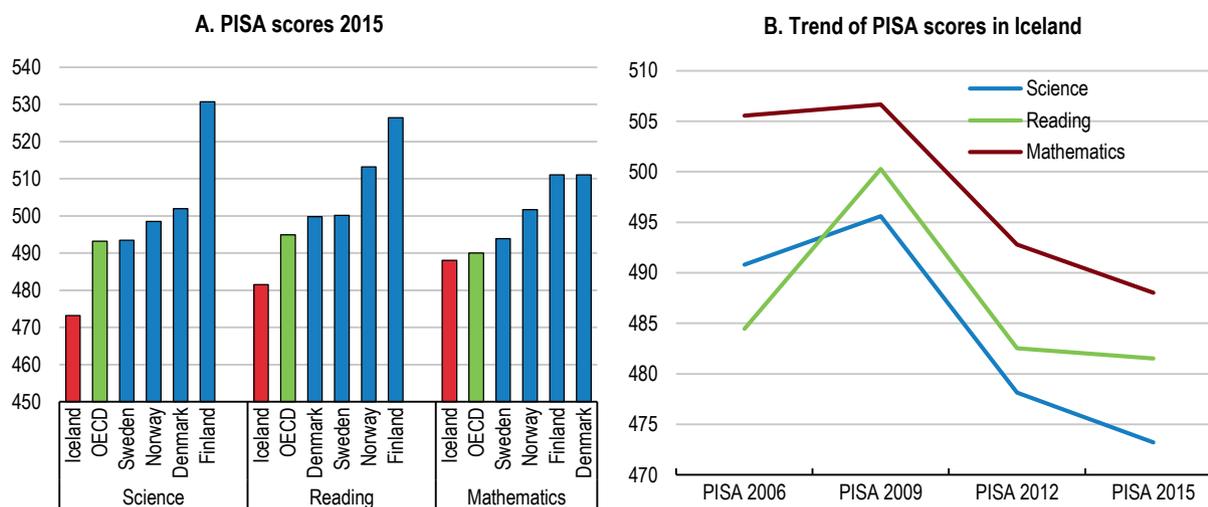
A welcome novelty in the wage agreement is the link between future wage developments and growth of GDP per capita. A numerical scale defines the additional wage increases if GDP rises more than projected in the wage settlements, providing a robust instrument to safeguard competitiveness. Still productivity would be a better anchor for maintaining competitiveness and macroeconomic stability while ensuring that growth continues to benefit all. A technical wage statistics committee has been created which could inform future wage guidelines based on reliable productivity measures.

#### ***Fostering strong and relevant skills***

Strong and relevant skills are important to help Iceland prepare for rapid technological change and for boosting inclusive growth. The PISA results reveal internationally weak and sliding proficiency levels among students at the end of compulsory schools, despite high expenditure on education (Figure 18). A large divide remains between immigrant

(making up 7% of 15-year-old students) and native students, especially in literacy, even if Iceland's education system is very equitable. Building solid core skills is vital for further skills development and success in a knowledge- and innovation-driven environment. Reforms underway to improve students' performance are in the right direction and need to continue. These include, in particular, a literacy initiative to strengthen the reading skills of compulsory education students and a new teacher competency framework that establishes standards to guide teacher appraisal and professional development.

**Figure 18. The PISA scores have weakened**

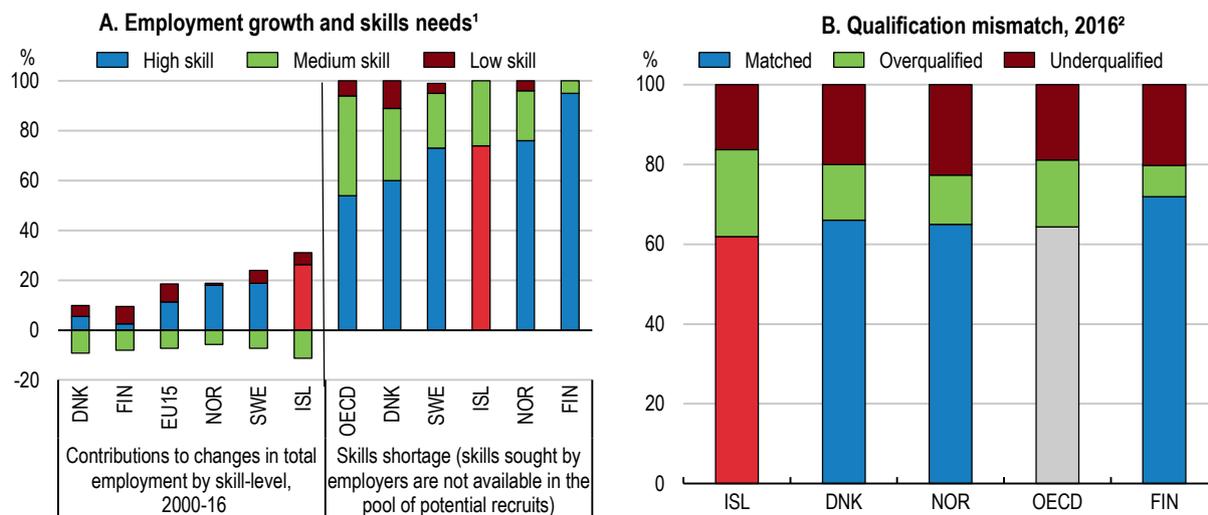


Source: OECD PISA 2015.

StatLink  <https://doi.org/10.1787/888933996410>

The education system should also be more responsive to evolving skills needs. Iceland seems to face skills imbalances, although data to assess their actual size is not yet available (Figure 19). Strengthening the vocational pillar is essential to reduce skills-mismatch and meet future skills demands, even if the employment rates among young people are high at the current conjuncture. Work- and school-based training should be better integrated and vocational education made more attractive to students. Moreover, complementary measures that encourage employer-based training may be necessary. In addition, linking university funding partially to the success of courses in providing skills corresponding to labour market demands, through for instance differentiated awards to institutions for such courses, would contribute to the development of the right skills-mix. A rigorous assessment of labour market needs and solid data on graduates' employment outcomes are essential in this regard. Finally, encouraging less educated workers to participate in lifelong learning programmes and integrating immigrants better in the labour market are crucial for responding successfully to shifting skill demands.

Figure 19. There is scope for better skills match



1. High-skilled workers refer to ISCO occupational groups 1-3, medium-skilled to group 4-8 and low-skilled to group 9. Data refers to latest year available.

2. Qualification mismatch describes a situation for which a worker has qualifications that exceed (overqualified) or do not meet (under-qualified) the ones generally required for the job.

Source: OECD Skills for Jobs; Eurostat.

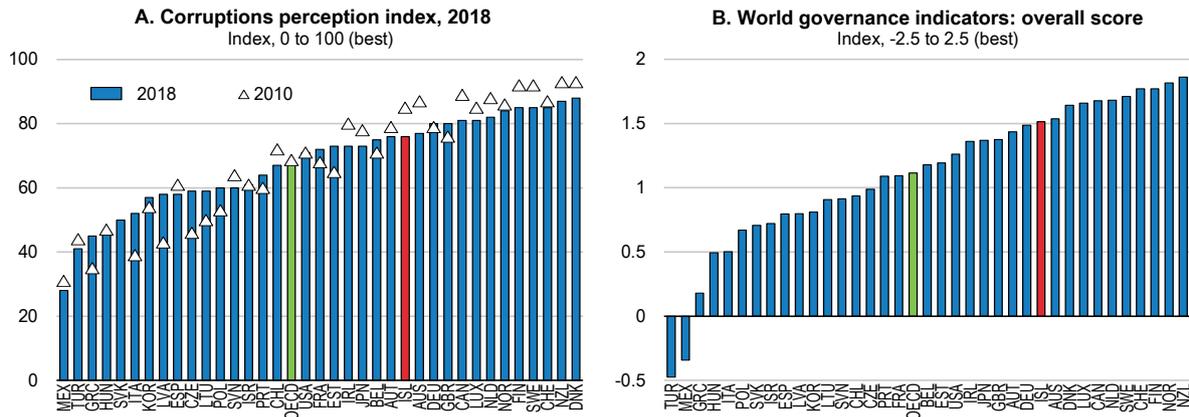
StatLink  <https://doi.org/10.1787/888933996429>

### *Institutions and governance could be strengthened further*

Productivity developments are partly affected by governance and institutions. They comprise elements such as the rule of law, regulatory quality, government effectiveness, and control of corruption. Iceland's institutional framework, in particular the rule of law, is strong, which helps to exploit the productive potential of the economy, but it remains below the other Nordic countries (Guillemette et al., 2017<sup>[35]</sup>). Trust in government sharply slid below OECD average after the crisis, but rose again over the past few years (WorldBank, 2019<sup>[36]</sup>).

Perception of corruption is low in Iceland, but it has crept up since 2012 (Figure 20). The small size of the country can exacerbate susceptibility to corruption. Low transparency in government decision-making and frequent conflicts of interest indeed seem to be a problem (Council of Europe, 2015<sup>[37]</sup>). In 2018, in response to the OECD's Working Group on Bribery, parliament amended legislation specifically to cover bribery of officials employed by state-owned and state-controlled companies (OECD Working Group on Bribery in International Business Transactions, 2018<sup>[38]</sup>). In 2018, the government sent a bill to parliament to strengthen the protection of whistle-blowers in the public and private sectors and to improve access to information.

Figure 20. Corruption is low but creeping up



Source: Transparency International and World Bank (2018).

StatLink  <https://doi.org/10.1787/888933996448>

### Box 5. Quantification of structural reforms

Selected reforms proposed in the Survey are quantified in the table below, using simple and illustrative policy changes. Other reforms, including in the area of skills or public spending, are not quantifiable under available information or the complexity of the policy design. Some estimates rely on empirical relationships between past structural reforms and productivity, employment and investment, assuming swift and full implementation, and they do not reflect particular institutional settings in Iceland. The estimates are hence illustrative, and results should be taken with caution.

Table 9. Potential impact of structural reforms on per capita GDP

Policy	Measure	10 year effect, %	Long-run effect, %
Reduce product market regulation	Reduce product market regulation in the network industries, the service sector and for foreign investment from 1.8 to 1.4 index points (one standard deviation)	3.2	8.3
Reduce marginal income tax rates	Reduce marginal tax rates by 2% points for all income groups	0.75	1.25
Increase public investment	Increase public investment by 0.5% points to 2.0% of GDP	1.5	3.0
Increase VAT revenues	Increase the VAT revenue ratio from 0.55 to 0.58	-0.0	-0.0
Reduce spending on disability	Reduce spending on benefits by half of the increase since 2000 (from 3.1% to 2.6% of GDP)	0.4	1.2
Reduce agricultural subsidies	Reduce subsidies by one third from the current level (1.5% of GDP)	1.0	2.5

Note: The following recommendations are included in the fiscal quantification (Box 2), but their impact on GDP cannot be quantified: reduce tapering of child and family benefits, increase environmental taxes. The high multipliers for investment assume that each of the public investment projects are well identified and highly profitable.

Source: OECD calculations based on (Égert and Gal, 2017<sup>[39]</sup>) and (Cournède et al., 2018<sup>[40]</sup>)

## Green growth

Iceland boasts pristine wilderness, spectacular landscapes, and abundant hydro and geothermal energy resources and generally enjoys excellent water and air quality. Relative to GDP, energy-related CO<sub>2</sub> emissions are lower than elsewhere in the OECD since renewables cover most energy needs, helping to keep small particle emissions low (Figure 21, panels A to D). Still the country is one of the highest per capita greenhouse gas (GHG) emitter in the OECD, excluding emissions from land use and land-use change, and emissions have risen by more than 10% since 2010 (OECD, 2014<sup>[41]</sup>).

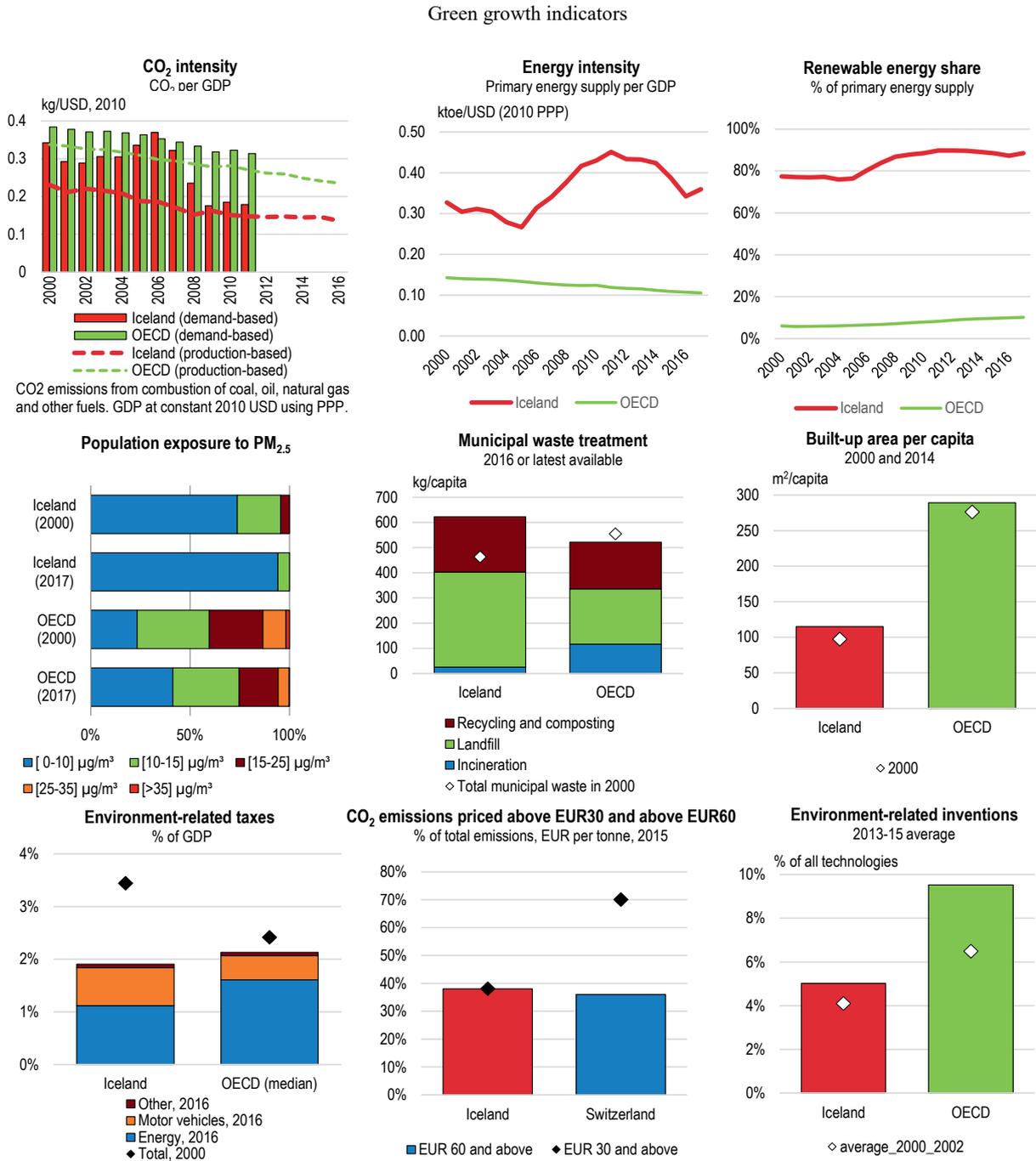
Abundant cheap energy has given Iceland a comparative advantage in energy-intensive aluminium smelting, which contributes substantially to GHG emissions. These emissions are included in the EU's emission trading scheme (ETS), in which Iceland participates even though it is not an EU member. Emissions from agriculture are also high, reflecting sheep raising. Overgrazing also contributes to soil erosion on half of the country's surface, damaging biodiversity and weakening flood control. Chapter 2 discusses reforms of agricultural subsidies to reduce these adverse environmental impacts. Hydropower and geothermal exploitation, urban sprawl and tourism also weigh on biodiversity (OECD, 2014<sup>[41]</sup>).

Iceland has joined the EU and Norway in their aggregate targeted GHG emission reduction of 40% by 2030 compared to 1990 (Ministry for the Environment and Natural Resources, 2018<sup>[42]</sup>). The government's emission reduction plan includes phasing out fossil fuels in transport, as well as restoring woodlands and wetlands. The government has committed more funding for charging stations and low-emission infrastructure as well as for tax incentives for electrical cars. It has announced a ban on new gasoline and diesel cars by 2030, 10 years earlier than several European countries.

Iceland has even more scope to reduce its energy-related CO<sub>2</sub> emissions (panel H). Iceland has a carbon tax, but its rate (about EUR 15 per ton CO<sub>2</sub>) is well below international benchmarks for the climate related external cost of carbon, projected to be at least EUR 60 by 2030. Tax exemptions for certain industrial sectors and the free allocation of emission permits to industry reduce the efficiency of emission mitigation and are a major reason why CO<sub>2</sub> pricing is not inclusive. The government's announcement that it will gradually increase carbon taxes is welcome. There is also a case for introducing taxes on hydroelectric and geothermal energy exploitation in view of their environmental impacts (OECD, 2018<sup>[43]</sup>). Finally, a more consistent approach to emissions pricing could also boost environment-related innovation, which is weak (panel I) (Calel and Dechezleprêtre, 2016<sup>[44]</sup>). Still high administrative barriers in the implementation of environmental regulation may unnecessarily hurt economic activity (Kozłuk, 2014<sup>[45]</sup>).

Iceland generates significant municipal waste, and much more than in 2000 (panel E). A large share is landfilled. Reducing and recycling waste reduces natural resource and energy consumption and GHG emissions substantially, including in sectors that are relatively difficult to decarbonise. The small size of municipalities, some with weak administrative capacity, result in inconsistencies in how environmental measures are designed and enforced, which could affect waste management. An option to reduce waste and recycle more could be to extend the Recycling Act to more products. By charging a fee proportional to waste volumes on all manufacturers and importers, the Act generates incentives to avoid and recycle waste (OECD, 2014<sup>[41]</sup>). The government announced a new landfill tax in summer 2019.

Figure 21. Despite abundant renewables, environmental impact remains considerable



Source: OECD Green Growth Indicators database.

StatLink  <https://doi.org/10.1787/888933996467>

## References

- Bloch, D. and J. Fournier (2018), “The Deterioration of the Public Spending Mix During the Global Financial Crisis: Insights From New Indicators”, *OECD Economics Department Working Papers*, No. 1465, OECD Publishing, Paris, <https://dx.doi.org/10.1787/2f6d2e8f-en>. [19]
- Calel, R. and A. Dechezleprêtre (2016), “Environmental Policy and Directed Technological Change: Evidence from the European Carbon Market”, *Review of Economics and Statistics*, Vol. 98/1, pp. 173-191, [http://dx.doi.org/10.1162/REST\\_a\\_00470](http://dx.doi.org/10.1162/REST_a_00470). [44]
- Central Bank of Iceland (2019), *Financial Stability*, 2019/1. [14]
- Central Bank of Iceland (2019), *Monetary Bulletin*, 2019/2. [6]
- Central Bank of Iceland (2019), *Monetary Bulletin*, 2019/3. [15]
- Central Bank of Iceland (2019), *Removal of Capital Controls on Holders of Offshore Krónur and Reduction of Special Reserve Requirement on Capital Inflow*, News, 4 March. [12]
- Central Bank of Iceland (2018), *Financial Stability*, 2018/2. [16]
- Council of Europe (2015), *Group of states against corruption, general activity report*. [37]
- Cournède, B. et al. (2018), “Public Finance Structure and Inclusive Growth”, *OECD Policy paper 25*. [40]
- Cournède, B., S. Sakha and V. Ziemann (2019), *Links Between Housing Markets and Economic Resilience*, *OECD Economics Department Working Papers*, forthcoming, OECD Publishing, Paris. [8]
- Égert, B. and P. Gal (2017), “The Quantification of Structural Reforms in OECD Countries: A New Framework”, *OECD Economics Department Working Papers*, No. 1354, <http://dx.doi.org/10.1787/2d887027-en>. [39]
- Einarsson, B. et al. (2013), “The Production and Export Structure of the Icelandic Economy: an International Comparison”. [3]
- Einarsson, B. et al. (2015), “The Long History of Financial Boom-bust Cycles in Iceland”, *Central Bank of Iceland Working Papers No. 68*, <http://www.sedlabanki.is>. [23]
- FATF (2018), *Anti-money Laundering and Counter-terrorist Financing Measures - Iceland, Fourth Round Mutual Evaluation Report*, FATF, Paris, <http://www.fatf-gafi.org/publications/mutualevaluations/documents/mer-iceland-2018.html>. [17]
- Federation of Icelandic Industrialists (2018), *The Icelandic Economy*. [32]
- Forbes, K. (2018), *Macroprudential Policy After the Crisis: Forging a Thor’s Hammer for Financial Stability in Iceland*, Report Prepared at the Request of the Task Force Dedicated to Reviewing Monetary and Currency Policies for Iceland. [11]

- Government of Iceland (2018), *Financial Stability Should Be Prioritised Over Price Stability*, News, 5 June. [13]
- Gudjonsson, H. (2015), “Reykjavik-Rotterdam, a study of exports of goods to the Netherlands”, *Working Paper, Statistics Iceland*, [https://hagstofa.is/media/49234/hag\\_151102.pdf](https://hagstofa.is/media/49234/hag_151102.pdf). [4]
- Guillemette, Y. et al. (2017), “A Revised Approach to Productivity Convergence in Long-term Scenarios”, *OECD Economic Department Working Papers 1385*, <https://dx.doi.org/10.1787/0b8947e3-en> WORK. [35]
- Haraldsson, G. and D. Carey (2011), “Ensuring a Sustainable and Efficient Fishery in Iceland”, *OECD Economics Department Working Papers*, No. 891, OECD Publishing, Paris, <https://dx.doi.org/10.1787/5kg566jfrpzzr-en>. [1]
- IMF (2018), *Iceland: Article IV, IMF Country Report 18/318*. [7]
- IMF (2017), *Iceland: Article IV, IMF Country Report 17/163*. [9]
- IMF (2010), *Economics of Sovereign Wealth Funds: Issues for Policymakers*, IMF. [24]
- Kakanov, E., H. Blöchliger and L. Demmou (2018), “Resource Curse in Oil Exporting Countries”, *OECD Economics Department Working Papers*, No. 1511, OECD Publishing, Paris, <https://dx.doi.org/10.1787/a5012a3d-en>. [25]
- Koźluk, T. (2014), “The Indicators of the Economic Burdens of Environmental Policy Design: Results from the OECD Questionnaire”, *OECD Economics Department Working Papers*, No. 1178, OECD Publishing, Paris, <https://dx.doi.org/10.1787/5jxrjnbnbm8v-en>. [45]
- McKinsey&Company (2017), *Coping with Success: Managing Overcrowding in Tourism Destinations*. [5]
- Ministry for the Environment and Natural Resources (2018), *Iceland’s Climate Action Plan for 2018-2030*. [42]
- Ministry of Finance (2012), *General Owner Policy of the State: Public Companies and Associations*. [30]
- Norges Bank (2018), *Government Pension Fund Global*, NBIM, <https://www.nbim.no/contentassets/49715a01ed684b1686ff3c017f1efa12/annual-report-2017---government-pension-fund-global.pdf>. [26]
- OECD (2019), *Jobs Strategy*. [31]
- OECD (2018), *Consumption Tax Trends: VAT/GST and excise rates, trends and policy issues*, OECD, <http://dx.doi.org/10.1787/cct-2016-en>. [21]
- OECD (2018), *Job Strategy*, OECD. [2]
- OECD (2018), *OECD Economic Surveys: Finland 2018*, OECD Publishing, Paris, [https://dx.doi.org/10.1787/eco\\_surveys-fin-2018-en](https://dx.doi.org/10.1787/eco_surveys-fin-2018-en). [34]

- OECD (2018), *Tax Policy Reforms 2018: OECD and Selected Partner Economies*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/9789264304468-en>. [20]
- OECD (2018), *Taxing Energy Use 2018: Companion to the Taxing Energy Use Database*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/9789264289635-en>. [43]
- OECD (2017), *OECD Economic Surveys: Iceland 2017*, OECD Publishing, Paris, [https://dx.doi.org/10.1787/eco\\_surveys-isl-2017-en](https://dx.doi.org/10.1787/eco_surveys-isl-2017-en). [10]
- OECD (2017), *The Size and Sectoral Distribution of State-Owned Enterprises*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/9789264280663-en>. [29]
- OECD (2014), *Environmental Performance Review Iceland*, OECD Publishing. [41]
- OECD (2013), *OECD Economic Surveys: Switzerland*, OECD Publishing, <http://www.oecd.org/eco/surveys/Switzerland>. [22]
- OECD (2012), *OECD Economic Surveys: Australia 2012*, OECD Publishing, Paris, [https://dx.doi.org/10.1787/eco\\_surveys-aus-2012-en](https://dx.doi.org/10.1787/eco_surveys-aus-2012-en). [27]
- OECD Working Group on Bribery in International Business Transactions (2018), *Phase 3 Follow-Up: Additional Report by Iceland*. [38]
- SALEK (2016), *The Icelandic Labour Market, report commissioned by the SALEK group*. [33]
- von Trapp, L. and S. Nicol (2018), *Measuring IFI Independence: A First Pass Using the OECD IFI Database*. [18]
- World Bank (2016), *World Bank Indicators*. [28]
- WorldBank (2019), *World Governance Indicators*, <http://www.govindicators.org>. [36]

## Thematic chapters

## Chapter 1. Fostering strong and relevant skills

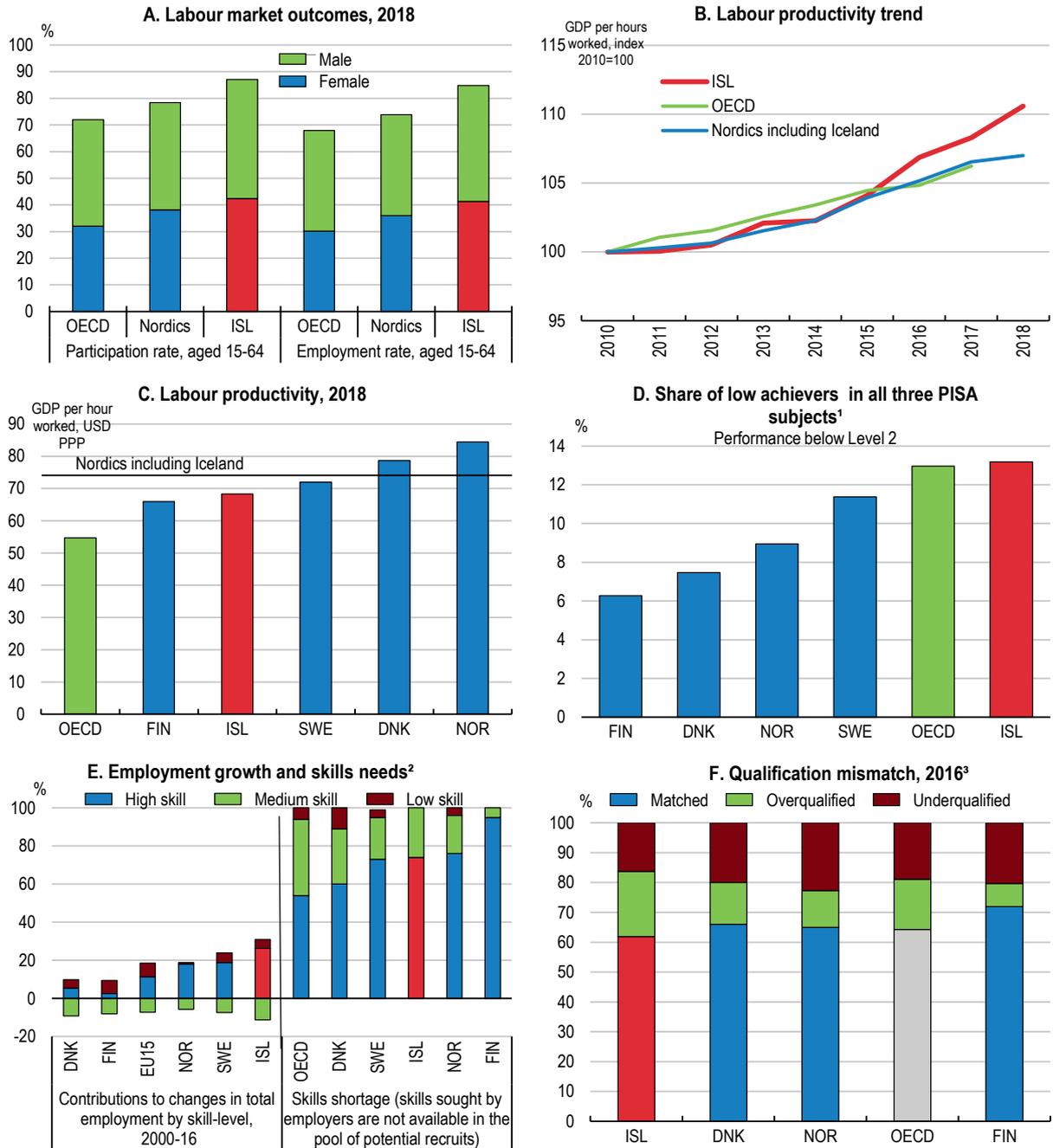
*Strong and relevant skills are vital for helping Iceland to adjust to rapidly changing technology and competition in the world economy and safeguard high prosperity and well-being. Many students lack solid core skills and competences, especially those with an immigration background, weakening the skills-base. Vocational and tertiary education do not always provide skills needed by the labour market. A comprehensive approach is required to strengthen skills, based on systematic assessment and forecasting exercises. This should include measures to improve teaching quality, including through stronger professional development, and ensure its equitable distribution, strengthen the work-based component of vocational training, and ensure that tertiary education provides the right skills. Beyond education, effective re-skilling and up-skilling programmes, including for immigrant workers, and strong work incentives are essential for further skill development and help make the best use of existing skills.*

Iceland enjoys high labour force participation and employment rates in international comparison, especially among women, and has a highly educated workforce (Figure 1.1). Although labour productivity growth has increased in recent years, the level of productivity remains below the average of Nordic countries, affected by skills mismatches and weakening school performance. Rapid technological change will add to pressures to train workers to cope with new challenges. In the future workers are likely to change occupations several times more in their lives than currently due to expected technological change. This underlines the need to provide the labour force with the skills needed for adapting to the expected changes.

There are two broad skills challenges that Iceland needs to address going forward. First, it is key to build a strong base by ensuring that young people leave compulsory education with the skills needed for further development and lifelong learning. This requires reducing the large share of students with low proficiency levels in literacy and numeracy, according to PISA findings (Figure 1.1), and also equipping young people with a broader set of skills including, for instance, creativity and collaborative skills that go beyond the competencies measured by PISA. Second, the skills and qualifications of Iceland's labour force should be better aligned with the demand for different skills in the country, which is also likely to change further with technological developments. Many occupations requiring high skills are facing shortages, while many workers are over-qualified for the jobs they do, implying that they are not meeting their productive potential. Using existing skills effectively is as crucial as developing them. Some of the skills shortages have been filled by immigrants, although they are not always well integrated in the labour market.

This chapter takes stock of recent policy initiatives to address these challenges, indicating areas where further reforms are needed. The chapter focuses in particular on education, lifelong learning (adult learning) policies, activation programmes, unemployment benefits and initiatives helping immigrant labour market integration. All these policy areas are key ingredients to a comprehensive approach for developing the appropriate skills and making the best use of them. Well-developed skills assessment and anticipation exercises are essential to inform policy decision.

**Figure 1.1. Iceland faces skills-related challenges**



1. Data refer to 2015 PISA results for reading, maths and science. “Level 2” is considered the PISA baseline level of proficiency.

2. High-skilled workers refer to ISCO occupational groups 1-3, medium-skilled to group 4-8 and low-skilled to group 9. Data refers to latest year available.

3. Qualification mismatch describes a situation for which a worker has qualifications that exceed (overqualified) or does not meet (under-qualified) the ones generally required for the job.

Source: EO database; OECD Education at a Glance (EAG) 2018; PISA 2015; OECD Skills for Jobs.

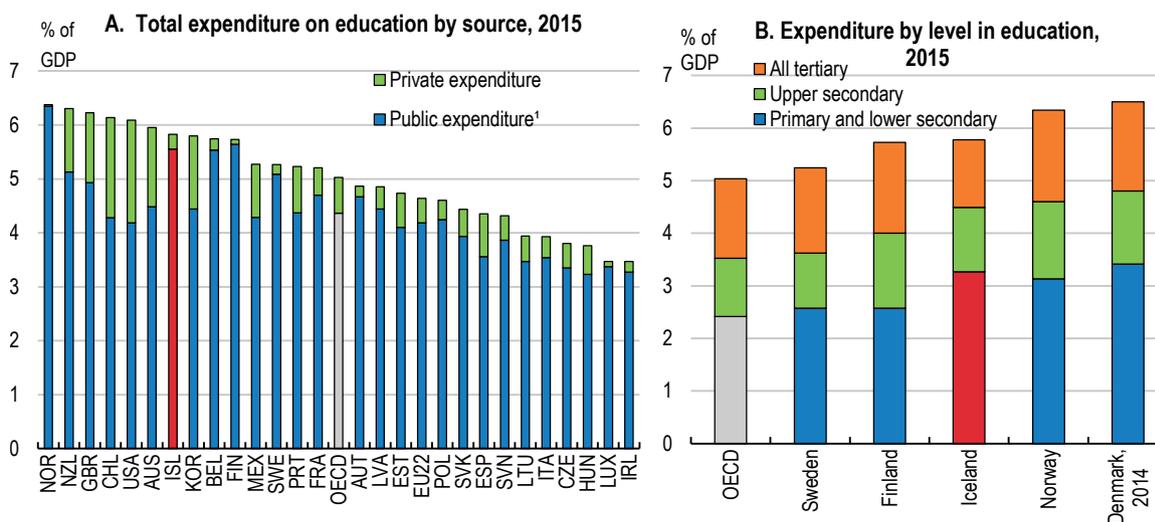
StatLink <https://doi.org/10.1787/888933996429>

## Building solid core skills

### *Iceland spends significantly on education but outcomes have deteriorated*

Iceland spends 0.8 percent point of GDP more on education than the average OECD country. The difference mainly reflects high levels of expenditure on compulsory education (primary and lower secondary education), which is almost fully publicly funded (Figure 1.2). Per student spending in primary and lower secondary levels exceeded the OECD average by one-third in 2015. The targeting of education funding at compulsory education reflects, to a large extent, the “inclusive school” policy, stipulating that all students, irrespective of their disabilities, should have access to normal schooling (OECD, 2016<sup>[1]</sup>) (Box 1.1).

**Figure 1.2. Iceland spends comparatively more on compulsory education**



1. Included public to private transfers.

Source: Education at a Glance 2018.

StatLink  <https://doi.org/10.1787/888933996486>

#### Box 1.1. Education system: main features

The education system in Iceland is divided into four levels: pre-school, compulsory, upper secondary and higher education (universities). The system is pre-dominantly publicly funded with very few private schools. The central government has the overall responsibility at all levels of education and sets the policies.

#### Compulsory education

The compulsory school, comprising primary and lower secondary education, is 10 years and caters to children between 6 and 15 years of age. Pre-primary and compulsory education are underpinned by the principle of inclusiveness, stipulating that all students independently of their disabilities should have access to normal schooling. There are currently 169 compulsory schools in Iceland, with a large variation in size. Small schools are concentrated mainly in the rural areas.

A comprehensive reform in 1996 devolved the responsibility for compulsory education to the municipalities. Local authorities are currently responsible for opening and closing compulsory schools, approving the school curriculum, organising school leadership and for allocating physical and financial resources. Schools (at all levels) enjoy a fair amount of autonomy as recommended by the OECD in general. The Municipal Equalisation Fund distributes grants to local authorities with the aim to even out differences in the cost of running schools and ensuring that all municipalities meet minimum requirements for schools.

### **Upper secondary education (general and vocational streams)**

Upper secondary education starts at 16 years of age. The general education is three years leading to a matriculation exam, which gives access to higher education. Vocational education and training (VET) lasts between one and five years, depending on the programme. There are two types of schools: class-based schools for general education, and credit-based schools for mixed general and vocational education. There is an additional level for specialised VET and journeyman qualifications, which is located at the upper secondary institutions.

There are currently over 80 VET programmes available to students. VET students do not have an automatic access to higher education, but they can complete an extra matriculation exam, alongside their vocational studies.

The upper secondary education is funded and managed by the central government. Some upper secondary (and higher education) institutes are government dependent private institutes. The funding system is in the process of being overhauled. Schools create their course descriptions and make proposals for programmes that have to be approved by the central government.

### **Tertiary education**

The tertiary sector comprises 7 universities (4 public and 3 private) and caters to 18000 students in total. All tertiary institutions in Iceland have the status of universities. There are no specialised VET institutions at the tertiary level, but some are more oriented towards VET programmes than others. Examples include, the art academy and the agricultural university.

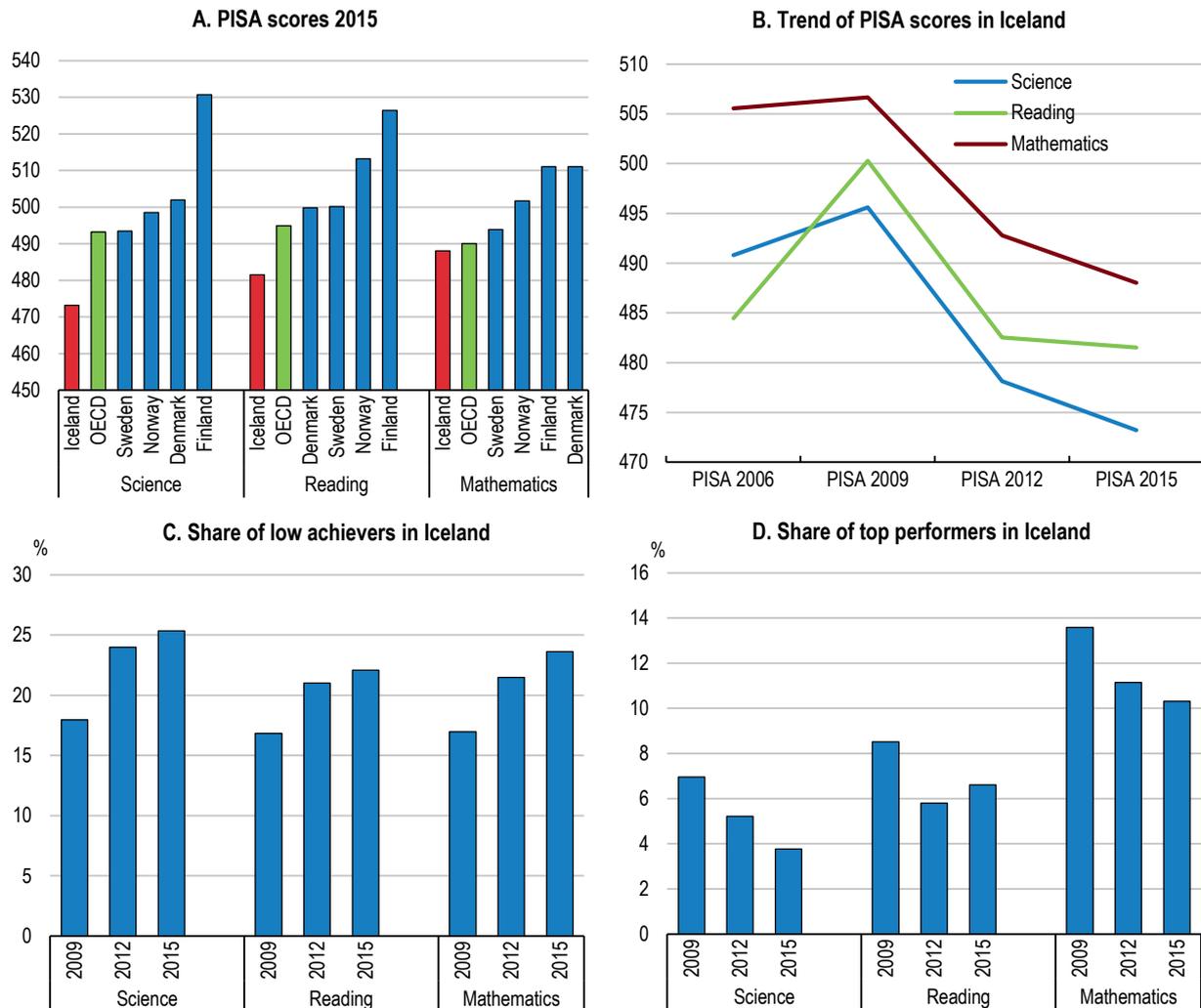
The main source of income for universities is public funds. Around 2/3 of the allocation is for teaching and is based on a funding model that takes into account the number of students (FTE) (approximately 95%) and, to a much lesser extent, the number of those who graduate (approximately 5%). Both are calculated on the basis of price categories for different fields (15 categories for exams). One-third of the government funding allocated to each higher education institution is determined on a historical basis. No criteria exist for research. The funding system is currently under review.

*Source:* Ministry of Education, Science and Culture.

Despite high spending levels, educational outcomes are not satisfactory. Icelandic 15-year olds scored below OECD average in all three subject areas (science, mathematics, reading) of the 2015 PISA (Figure 1.3). Moreover, performance in PISA tests has declined over time. Around 13% of students approaching the end of compulsory education did not reach the PISA baseline level (Level 2) of proficiency in all three subjects of the assessment,

close to the OECD average but higher than in other Nordic countries (Figure 1.1). The proportion of low performing students has increased from 2009 to 2015 in all core domains of PISA, while that of top performers (i.e. students achieving proficiency levels 5 or 6) has been sliding over time (Figure 1.3).

Figure 1.3. Low and declining PISA scores



Note: “Low achievers” refers to students who perform at below 2 Level of PISA proficiency in each of the three subjects; and “top performers” to students who achieved Level 5 and above in each of the three subjects.

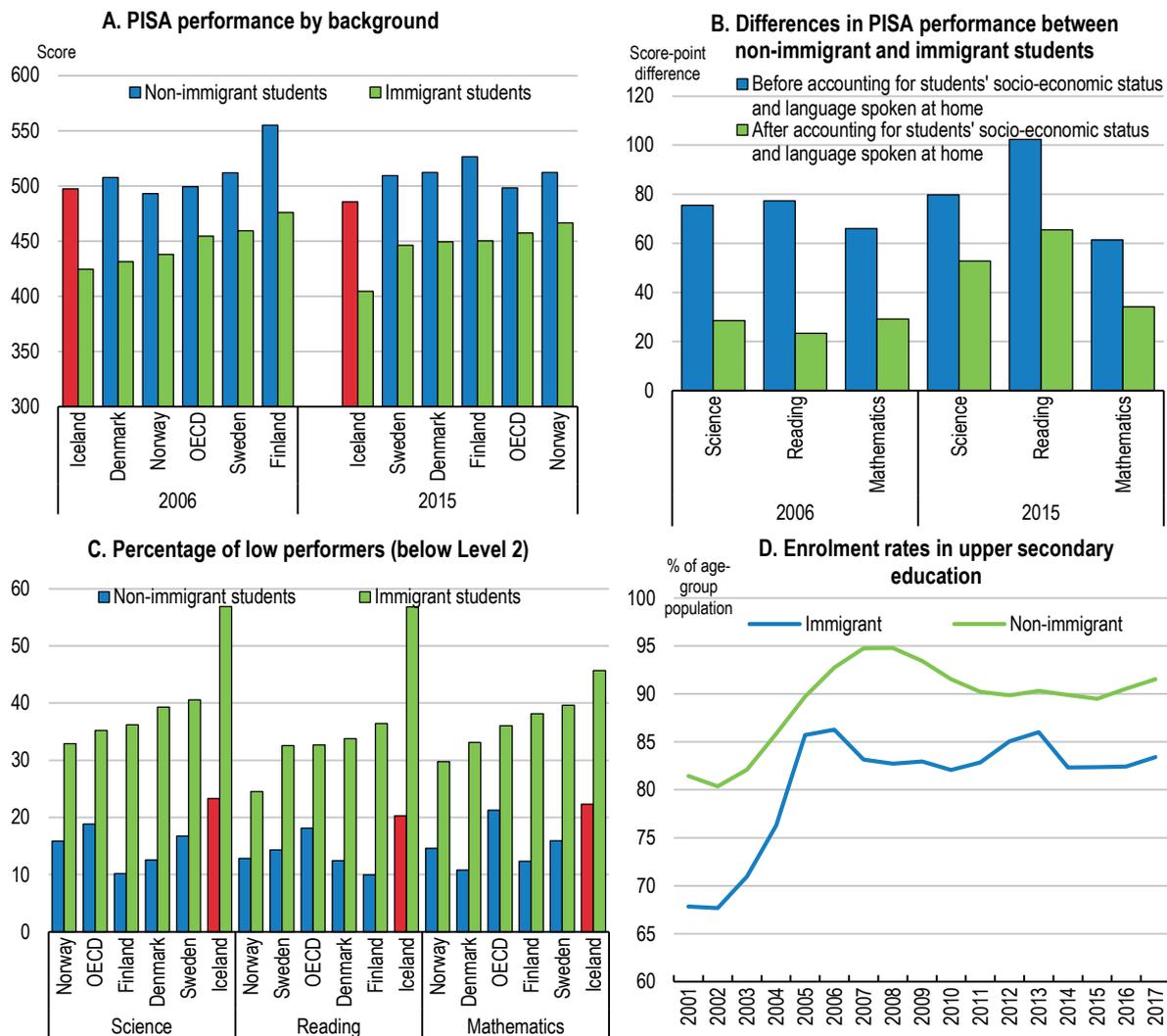
Source: PISA 2015.

StatLink  <https://doi.org/10.1787/888933996410>

Immigrants, which make up 7% of 15-year-old students, perform less well in the PISA tests than their native counterparts, even if Iceland’s education system is very equitable (Figure 1.4 and Figure 1.5). The performance gap remains regardless of socio-economic background. In reading literacy, the PISA score difference is over 60 points, which is equivalent to more than one year of schooling, with first generation immigrants performing particularly poorly. Students from an immigrant background are also at least twice as likely as native students to fail achieving the baseline PISA level, especially in reading. This weak

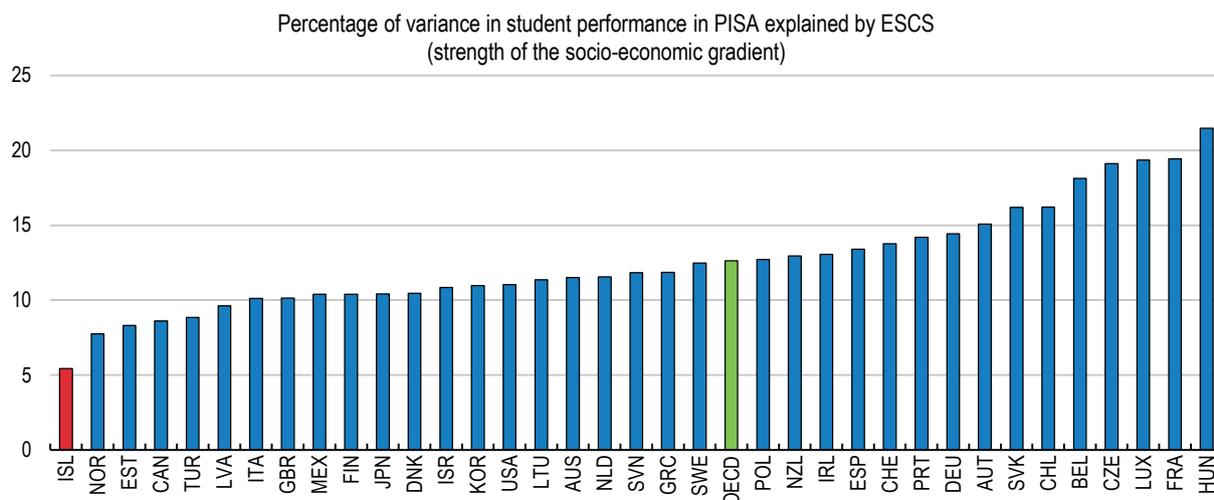
performance is further reflected in the low enrolments of immigrant students in upper secondary education compared to native students. OECD cross-country evidence suggests that students with poor PISA scores do not generally catch up later in life (OECD, 2015<sup>[2]</sup>). This is also supported by the relatively smaller proportion of “resilient” students in the case of immigrants compared to their native counterparts, with the corresponding shares standing at 10% and 18%, respectively (OECD, 2016<sup>[3]</sup>). “Resilient” students are those who manage to perform better than predicted by their socio-economic status. This calls for measures to better integrate immigrants (see below).

**Figure 1.4. Immigrant students underperform by a wide margin**



Source: PISA database.

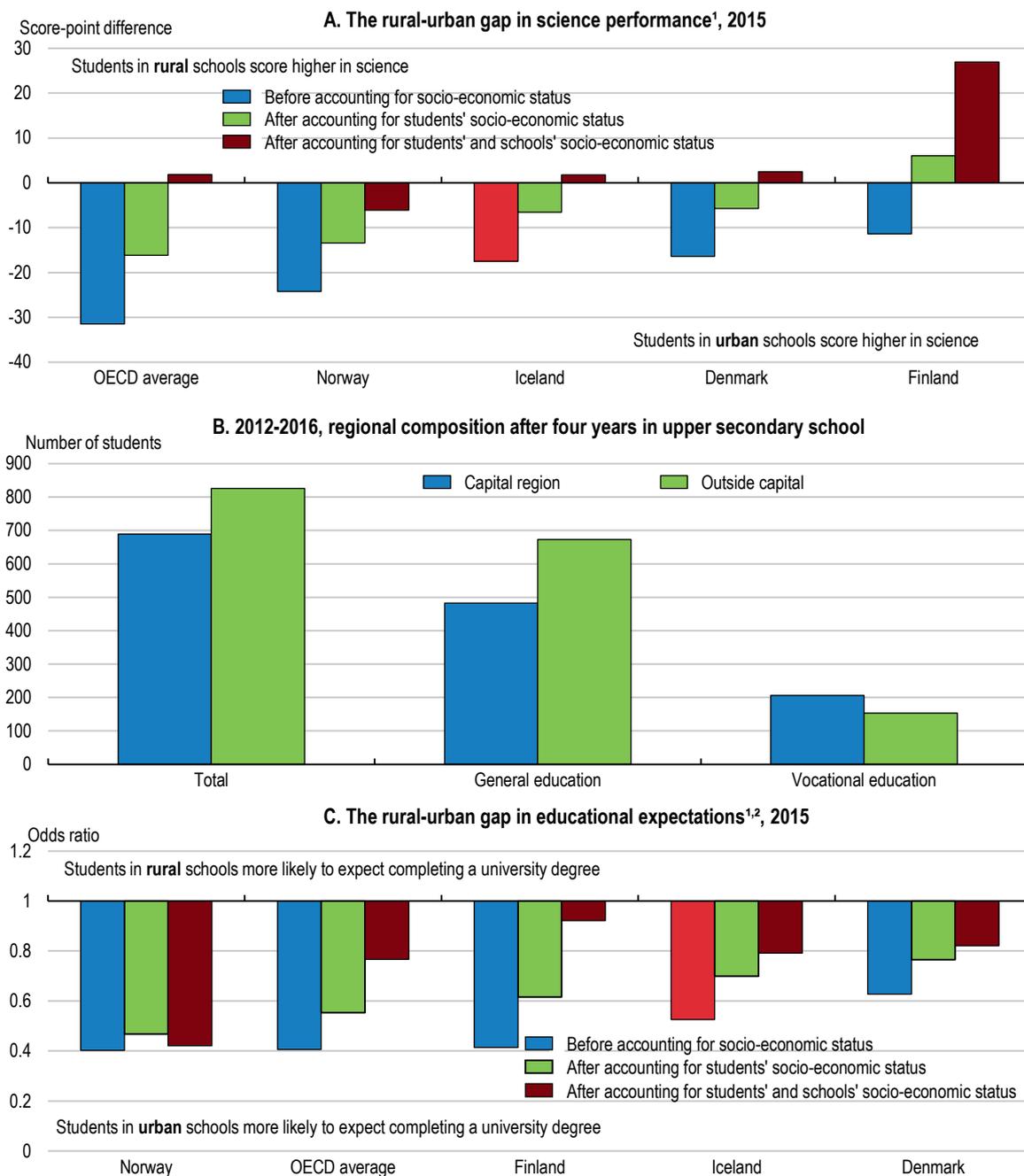
StatLink  <https://doi.org/10.1787/888933996505>

**Figure 1.5. Socio-economic background has a small impact on students' outcomes**

Source: PISA database.

StatLink  <https://doi.org/10.1787/888933996524>

There are also growing regional inequalities in educational performance. When urban and rural students are compared, the former do better in science PISA scores by 17 points, while the difference disappears when the socio-economic profile of both students and schools are taken into account (Figure 1.6). The rural-urban gap in performance persists, however, as further analysis reveals, when controlling for additional school and student characteristics (Box 1.2). Rural students also underperform compared to their urban peers in terms of upper secondary graduation rates, as well as expectations for pursuing university studies (with the gap persisting after taking students socio-economic status into account). Both are very important to further skills development. A recent study, focusing on Iceland, highlights the lower levels of ambition among students in rural areas (Nissinen et al., 2018<sup>[4]</sup>).

**Figure 1.6. Rural-urban differences in education performance**

1. In PISA, schools located in towns of 3 000 inhabitants or less are defined as rural while urban ones refer to cities with 100 000 inhabitants or more.

2. The odds ratio is a measure of the relative likelihood of a particular outcome across two groups; an odds ratio below one denotes a negative association; and an odds ratio of one implies no association.

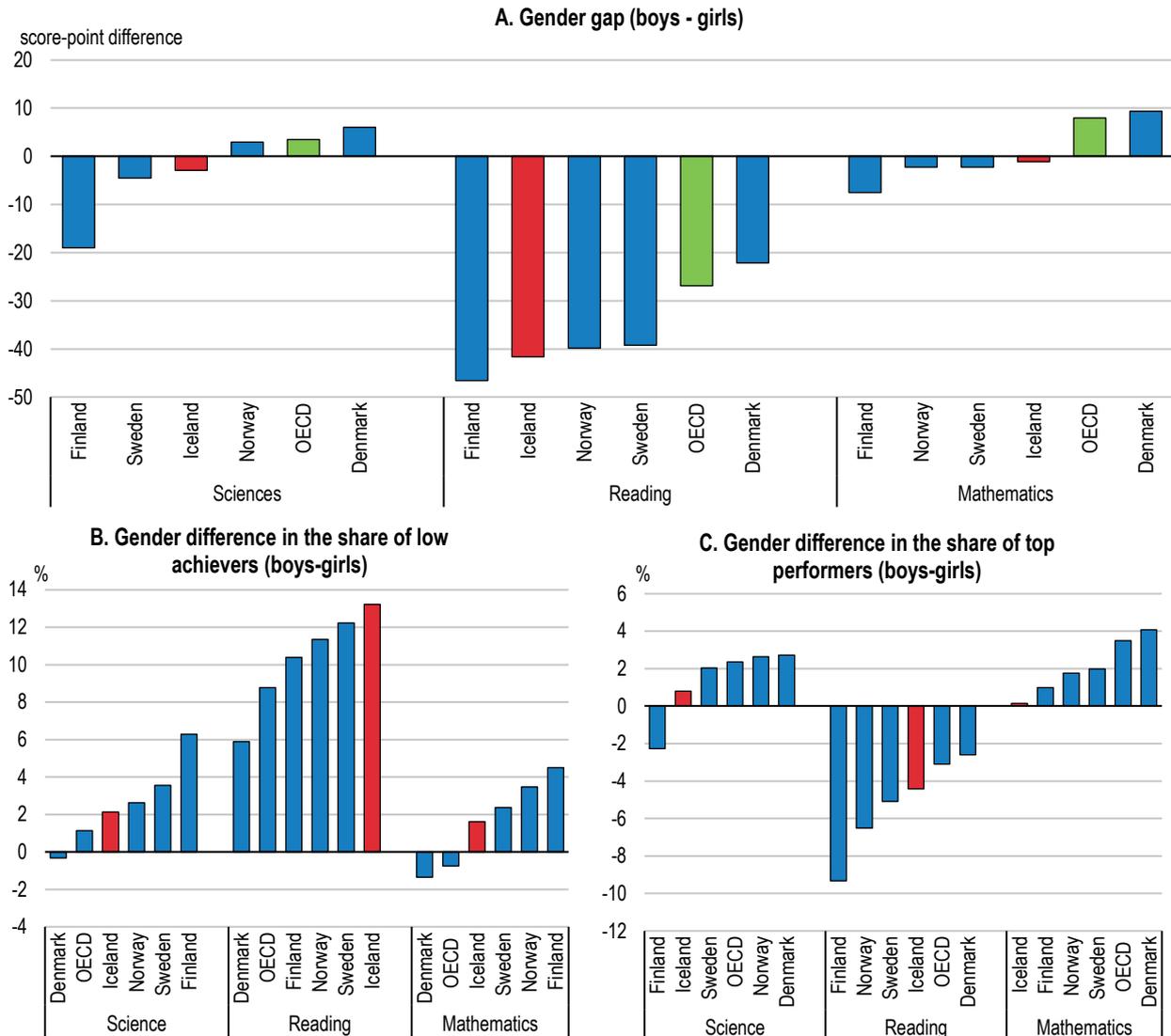
Source: Echazarra, A. and T. Radinger (2019), "Learning in rural schools: Insights from PISA, TALIS and the Literature", *OECD Education Working Papers*, No. 196, OECD Publishing, Paris; Statistics Iceland.

StatLink  <https://doi.org/10.1787/888933996543>

The gender gap in reading skills is also large. Around 24% of 15-year-old boys, compared to 10% of girls, failed to achieve the baseline level of efficiency, according to PISA

findings, with the difference exceeding the OECD average and the levels in peer countries (Figure 1.7). The difference is even larger for rural boys (Statistics Iceland, 2018<sup>[5]</sup>).

**Figure 1.7. A large gender gap in reading literacy remains**



*Note:* “Low achievers” refers to students who perform at below 2 Level of PISA proficiency in each of the three subjects; and “top performers” to students who achieved Level 5 and above in each of the three subjects.

*Source:* PISA 2015.

StatLink  <https://doi.org/10.1787/888933996562>

Several, complex – and to an extent, inter-related – factors affect learning outcomes, ranging from students’ characteristics and interests to the quality of the education system per se. This multi-dimensionality is also highlighted by the results of an empirical analysis of PISA data for Iceland, carried out in the context of this Survey (Box 1.2). Socio-economic background, immigrant status and gender were all found to affect student performance, as are certain school characteristics, including location, teacher shortages and teachers’ academic qualifications. Of course, teacher quality goes beyond academic

credentials as skills and competences are also shaped by other factors, notably the pre-service practical training that new teachers receive and in-service professional development. Recent OECD analysis further highlights the importance of behavioural differences in explaining performance gaps in different academic subjects, especially between girls and boys, and the need, in this context, to encourage student attitudes through collective efforts (OECD, 2015<sup>[6]</sup>; OECD, 2016<sup>[3]</sup>). Overall, a comprehensive reform approach is required to improve student outcomes that entails specific measures focusing on areas of particular concern such as weak reading skills, and more broad measures that strengthen the foundations of the education system, with teaching quality at the core. These are discussed below.

### **Box 1.2. Explaining PISA results for Iceland: an empirical analysis**

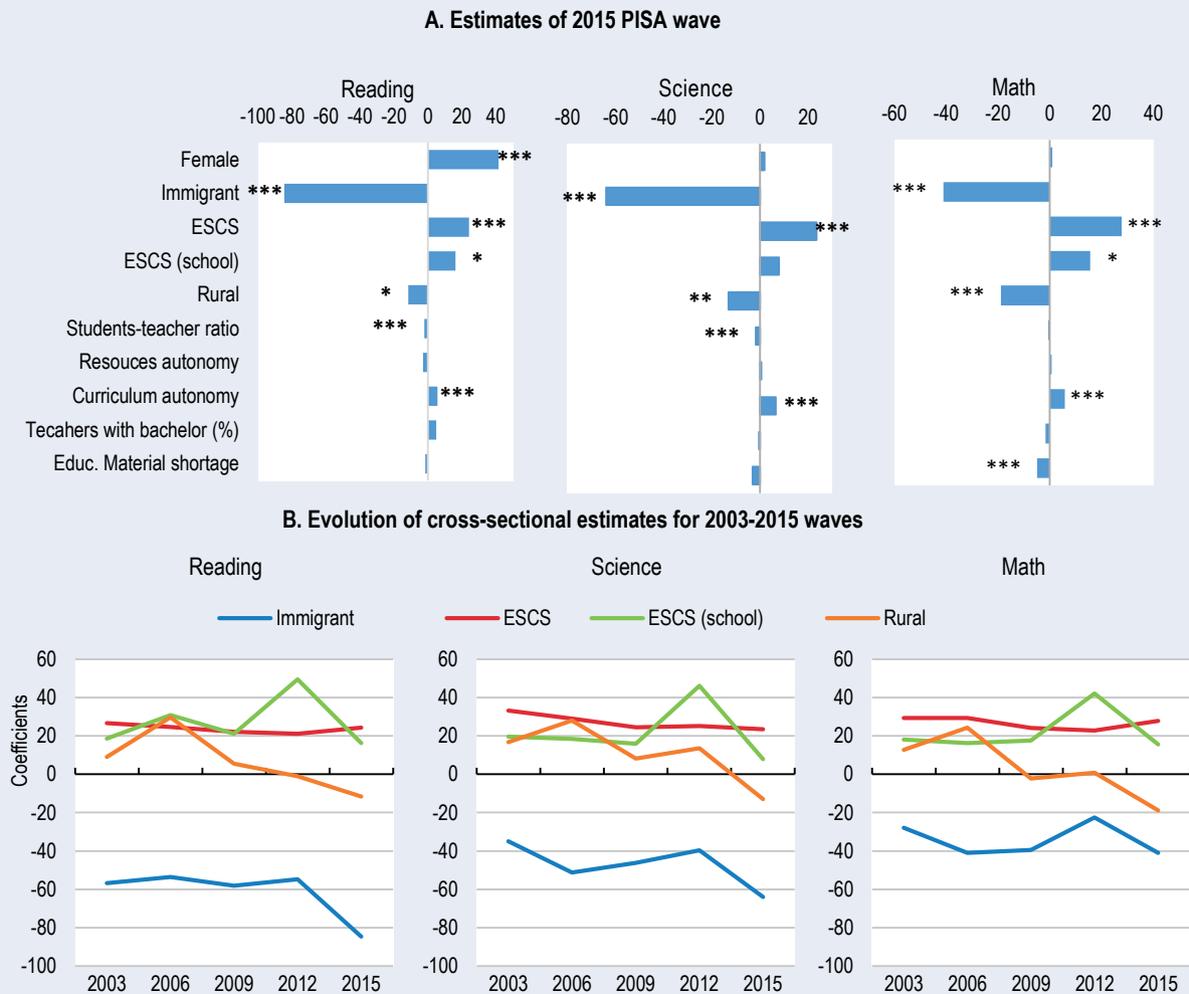
OECD analysis uses data from the six waves of PISA database for the period 2000-2015 to identify the main drivers of student performance in Iceland. A student-level education production function is estimated for each wave, with PISA test scores as dependent variable and students' and schools' characteristics as independent ones. Each PISA subject area (reading, mathematics, science) is analysed separately using an ordinary least squares (OLS) regression. In addition to a cross-sectional analysis, pooled cross-sectional and panel analysis, with fixed and random effects, were also employed for a sub-sample of schools to shed additional light to the evolution of PISA outcomes over time (Brogi and Koutsogeorgopoulou, forthcoming<sup>[7]</sup>)

The cross-sectional analysis of the last wave (2015) shows that student characteristics play an important role in explaining PISA scores, and this is true for all six waves of the assessment (Figure 1.8). More specifically, student's social background has a significant positive effect on test scores, which remains stable overtime for all three subjects. On the other hand, immigrant status has a significant negative impact on scores, especially in the last wave. Gender appears to have a strong influence only in the case of reading, with girls performing significantly better than boys.

Regarding school characteristics, rural schools outperformed their urban counterparts until mid-2000s. The performance gap was reduced substantially in the following years, however, and was even reversed in 2015 with urban schools performing better in science, and especially, in maths (Figure 1.8). These results hold when taking into account several school and student characteristics that go beyond socio economic status (ESCS) and consider the whole PISA sample.

School-level variables also play a role. For instance, teachers' shortages have an adverse impact on student performance, which is statistically significant in almost all waves, while teachers' academic qualifications (in terms of holding a university degree) do not always matter. The quality of school material (e.g. laboratories) turns out to be another important variable, at least in some waves. Overall, the findings highlight that several interactive factors can help explain Iceland's PISA performance.

Figure 1.8. Drivers of student performance



Note: \*, \*\*, \*\*\* denotes significance at the 90%, 95% and 99%, respectively. ESCS is the PISA index of socio, economic and cultural status for students. ESCS (school) is the mean of students' ESCS at school level.

Source: PISA database and OECD calculations.

StatLink  <https://doi.org/10.1787/888933996581>

### Meeting the reading skills target

A 5-year national literacy strategy was launched in 2015 in the wake of a government White Paper on education reform in the previous year. The target was that at least 90% of students in compulsory school meet minimum reading standards (Level 2) by 2018, up from 79%. Efforts to achieve the target involved the development of reading proficiency standards for each level of compulsory education, as well as of new assessment tools (fluency tests) for the regular measurement of reading skills (Sigþórsson, 2017<sup>[8]</sup>). Moreover, the literacy initiative has allocated funding for a period of 5 years for counselling and support to municipalities and schools and awareness raising (Kavli, 2018<sup>[9]</sup>). A Directorate of

Education was created in 2015 to monitor the implementation of the national initiative on literacy and a task force was set up to this end.

These measures go in the right direction towards improving reading literacy skills. Regular reading fluency assessments provide useful information on students' achievement at different school stages, enhancing the capacity for diagnosing reading difficulties. A number of local authorities and schools have already adopted reading policies with specific objectives and took actions to improve reading skills (Directorate of Education, 2017<sup>[10]</sup>). Efforts need to continue, however, as the reading literacy target set by the 2014 White Paper has not yet been achieved. A swift implementation of the measures under the literacy initiative is important. Strengthening literacy as a separate subject in school curricula for higher grades (5th and above) could also be considered, given evidence that literacy skills deteriorate as students move to higher grades.

Immigrant students require particular attention in view of their relatively poor reading skills (Figure 1.4) and the growing share of students with Icelandic as a second language. The corresponding share of such students in compulsory education stood at 10% in 2017, compared to only 1% two decades earlier. Offering language training, in addition to regular course work, is important. Recent OECD research highlights that integrating immigrant children into mainstream classes is associated with better outcomes (OECD, 2015<sup>[11]</sup>). This should be accompanied by appropriate training of teachers who work with immigrant students.

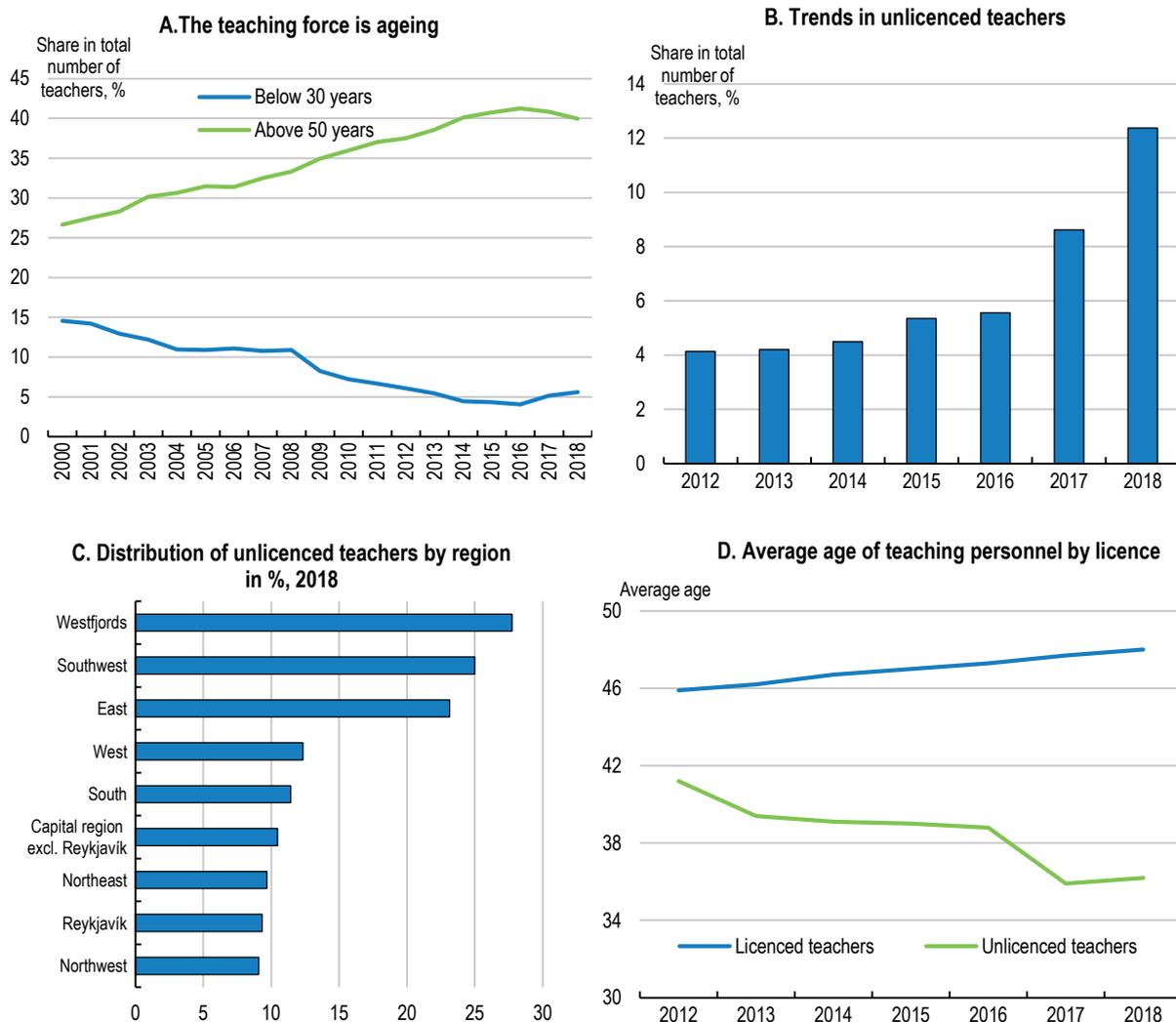
The authorities have launched a number of initiatives to promote the use of Icelandic language, which they find important given the small number of native speakers. Recent research into the development of the language has highlighted how vulnerable this is in an age of disruptive advances in digital technology (Rögnvaldsson et al., 2018<sup>[12]</sup>). Appropriately, immigrant children are given special attention to acquire adequate language skills. To this end, the Municipal Equalisation Fund provides grants to schools to support immigrant children, which benefits rural schools in particular. Moreover, a working group was set up by the government to analyse the situation of immigrant students in Iceland, which is expected to deliver proposals before the end of 2019.

Overall, ensuring that the majority of students in compulsory education reach the minimum reading standards is a key challenge. Setting clear goals for top performers in reading literacy, and perhaps other competency areas of PISA, and developing the necessary tools to achieve such goals, is also advisable. Reforms to enhance teaching quality, discussed below, play a key role in this regard.

### *Improving teaching quality*

The teaching profession does not appear to be attractive to young people in Iceland, as indicated by the falling share of those under 30 years entering the vocation (Figure 1.9). This raises concerns not only about future teacher shortages, but also about quality. The proportion of un-licensed teachers in compulsory education has increased in recent years, reaching around 12% in 2018 (Figure 1.9). This may reflect the high employment turnover of fully qualified teachers, with many teachers leaving the profession especially after the first years of their career. Under current arrangements, a less qualified applicant (“out-of-licence” teaching) can be hired when no fully qualified teacher is available. The “qualitative” shortfalls are particularly large in areas outside the capital, such as Westfjords where the rate of teachers without a licence has reached 28%. In addition, licenced teachers are getting older, with an average age close to 48 years in 2018, compared to 36 years of teachers without a licence.

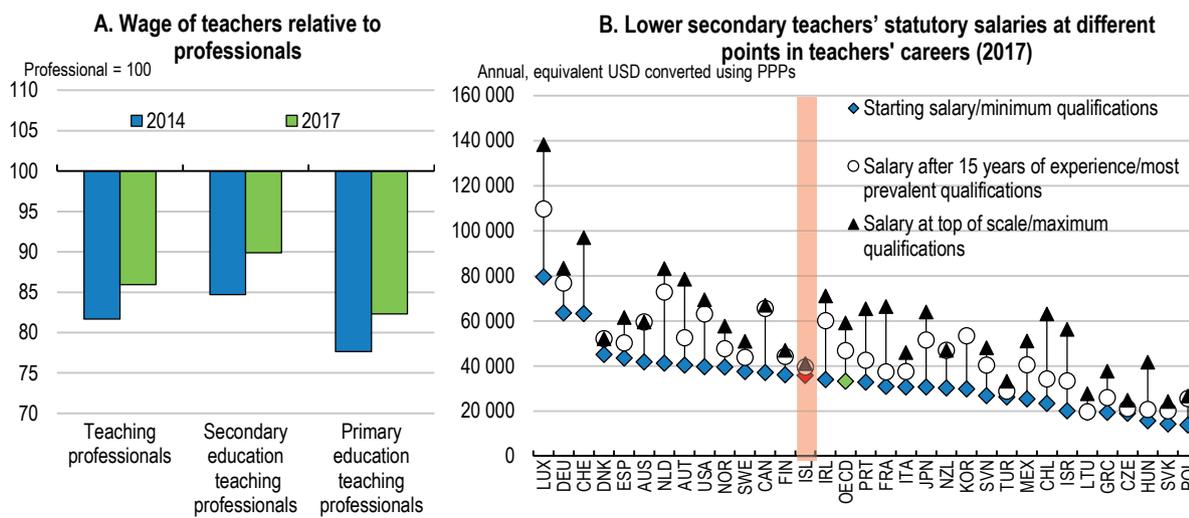
Figure 1.9. The teaching profession faces challenges at primary and lower secondary level



Source: Iceland statistics and OECD calculations.

StatLink  <https://doi.org/10.1787/888933996600>

Relatively low salaries compared to other professionals and a slow wage progression can reduce the attractiveness of the teaching profession (Figure 1.10) (Chapter 2). After 15 years of service the salary of a lower secondary teacher in Iceland is only 10% higher than the level of the starting salary, with the difference increasing to 15% when comparing the final and starting wage. The corresponding figures for the OECD average stand at 41% and 78% respectively. OECD research concludes that relative earnings in teaching and non-teaching occupations, and their likely growth over time, have a strong influence over a graduate's decision to become a teacher (OECD, 2005<sub>[13]</sub>; OECD, 2014<sub>[14]</sub>).

**Figure 1.10. Teacher salaries are relatively low**

Source: Statistics Iceland; OECD Education at a Glance 2018.

StatLink  <https://doi.org/10.1787/888933996619>

Some other aspects of the teaching profession may also affect its attractiveness as a career choice for young people. Icelandic teachers, for instance, spend comparatively more time on administrative tasks and classroom management, on the basis of the findings of the 2013 OECD Teaching and Learning International Survey (TALIS), at the expense of teaching time (OECD, 2014<sub>[15]</sub>). Moreover and like in the other Nordic countries, a formal system of teachers' promotion that could make the process more structured and transparent is currently absent. OECD analysis concludes on the basis of behavioural evidence that, in addition to pay, extrinsic factors such as working conditions and career prospects, are important influences on whether people choose to become teachers or not (OECD, 2005<sub>[13]</sub>). The TALIS results for Iceland further show that many teachers feel that their work is undervalued.

Improving the image of the teaching profession and its competitive position in the job market through, for instance, public campaigns and well-designed financial incentives, could help attract new entrants to the field (OECD, 2005<sub>[13]</sub>). Transforming the teaching profession, however, requires a more comprehensive approach through well-coordinated strategies that strengthen quality. The ageing of the teaching workforce provides an opportunity for such reforms. Based on the experience of best performing countries, ensuring high teaching quality hinges upon an effective pre-service training, the presence of a wide-range of custom-made opportunities for in-service professional development, and coherent teacher-appraisal mechanisms (OECD, 2018<sub>[16]</sub>).

Iceland faces important challenges in these areas with recent reform initiatives going in the right direction. In particular:

- Initial teacher education (ITE) programmes need to prepare novice teachers better for the realities of the classroom (Figure 1.11, Panel A). A 5-year master's degree is required since 2012 to enter the teaching profession at all levels. Class-based practice, however, also needs to be strengthened to help new teachers bridge theory and practice. Recent reforms that make the fifth year of the ITE programmes a paid part-time apprenticeship position at schools are a welcome step forward as they

boost practical training, while also reinforce the links between schools and teacher education institutions. Extending the period of practical training could be another reform option. Some countries, for instance Ireland and Sweden, have also established minimal credit hours for pre-service class-based practice of teachers (European Commission, 2015<sup>[17]</sup>). ITE programmes that prepare new teachers for the diverse background of their students, through classes geared towards this end, are also important (OECD, forthcoming<sup>[18]</sup>).

- The participation of new teachers in induction programmes is relatively low. Around 60% of new teachers in Iceland work in schools providing formal induction programmes, not far from the OECD average, but only 20% of them report to have taken part in such programmes (Figure 1.11, Panel B). A similar pattern applies to mentoring programmes. Participation in induction/mentoring programmes is important for the smooth transition from initial teacher education (ITE) to the real school environment, while it can also reduce attrition among new teachers (European Commission, 2015<sup>[17]</sup>). At the same time, schools need to be encouraged to offer well-designed, and carefully targeted, programmes (OECD, 2014<sup>[15]</sup>). The main challenge in the case of mentoring schemes is to attract experienced teachers and train them to become effective mentors (OECD, 2019<sup>[19]</sup>). ITE and induction initiatives need to be closely aligned.
- There is scope to match better professional development opportunities to teachers' needs. Participation in professional development activities is high in Iceland, according to 2013 TALIS findings, but many lower secondary teachers report unmet needs in important areas such as developing ICT skills for teaching (Figure 1.11, Panel C). Providing a variety of bespoke opportunities for in-service professional development is crucial, and in line with best practice (OECD, 2018<sup>[16]</sup>). The 2013 TALIS results also point to some other barriers to participation in professional development activities, such as conflicts between the training and work timetable, with scope for further improvement (Figure 1.11, Panel E). An expert panel, established by the government, is examining options for reform in the context of the Education Policy 2030 review.
- An effective evaluation system for teachers is absent. Iceland has no legislated teacher-appraisal policy as some other countries do, such as Australia and Canada, for example. In addition, a relatively low proportion of teachers in schools with formal appraisal practices have reported in the TALIS survey to have their classrooms directly observed as a means of assessment (Figure 1.11, Panel D). Classroom observations and teacher interviews are used extensively by high performing countries to evaluate teaching quality (OECD, 2018<sup>[16]</sup>). More importantly, the TALIS results for Iceland suggest that the appraisal process has only a weak impact on teachers' skills development and their practices, highlighting the need for stronger evaluation and feedback. An OECD in-depth review of teacher appraisal systems provides a number of policy options for improving evaluation frameworks (Box 1.3) (OECD, 2013<sup>[20]</sup>). The review concludes that it is the design and quality of teacher-appraisal mechanisms, rather than the existence of a formal appraisal, which make the process effective.

As a welcome step towards improving teaching quality, a new teacher competency framework was developed that will form the basis for teacher education and certification, hiring and promotion processes, professional development and training, and teacher

appraisal. The new framework is expected by the authorities to provide a clear guidance to school leaders to focus on teachers' training and make it more performance oriented.

Recent initiatives also aim to increase the attractiveness of the teaching profession to young people through the launching of a campaign to enhance the image of the profession at pre-primary and compulsory schools and changes in initial teacher education. The latter include the provision of grants to students during their fifth year of study in order to reduce the need for student loans at the last year, in addition to making the fifth year a part-time paid apprenticeship (see above). Moreover, a law in 2019 introduces a common teacher certificate for all three school levels (pre-primary, compulsory, and upper secondary education), instead of three different ones as is currently the case, which could facilitate teacher mobility between schools and across school education levels.

**Box 1.3. Improving the effectiveness of teacher-appraisal system: international evidence**

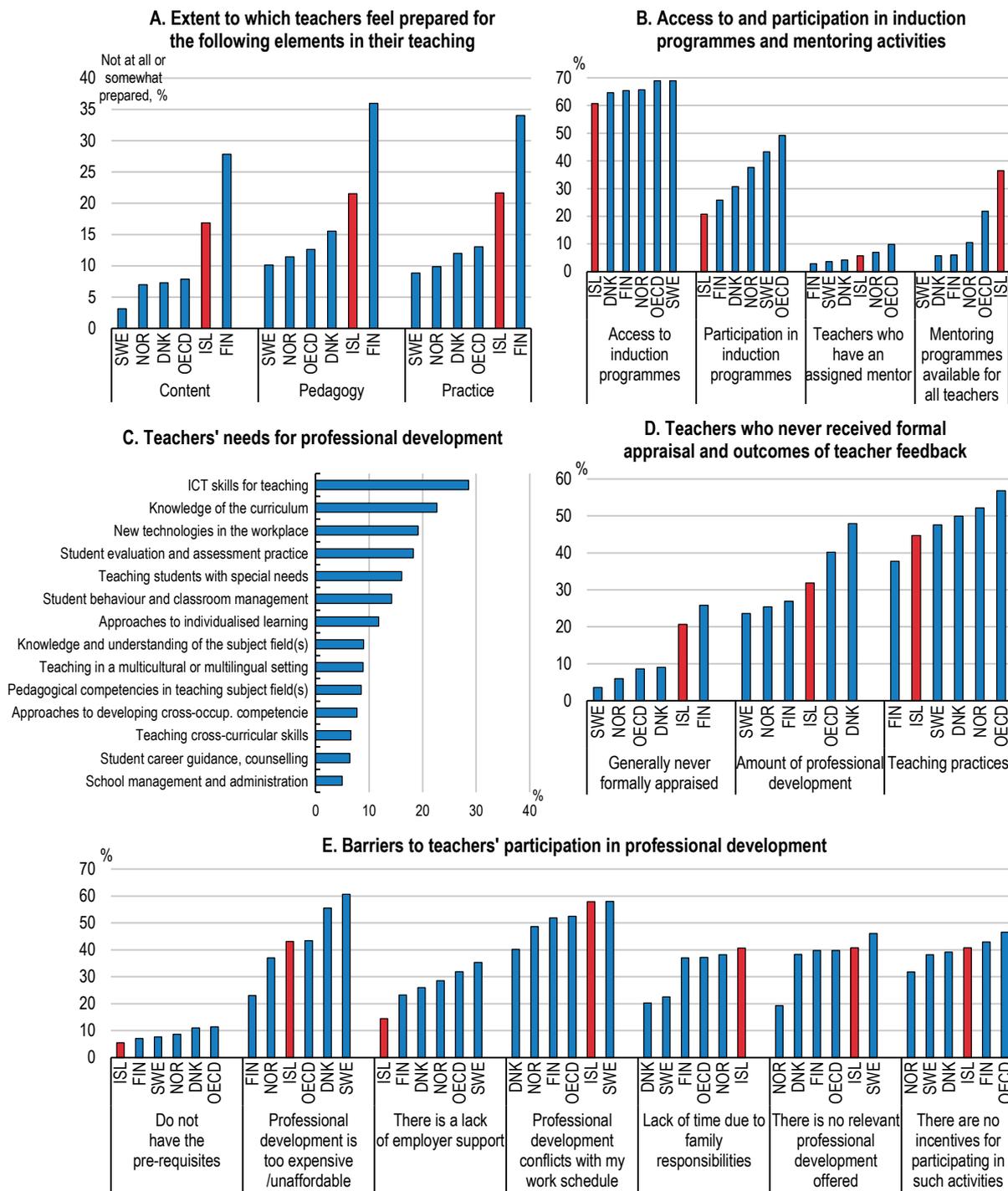
- Establishing teaching standards to guide teacher appraisal and professional development.
- Resolving tensions between the developmental and accountability functions of teacher appraisal.
- Conducting regular developmental appraisals at the school level, based on frequent classroom observations and other sources of information.
- Ensuring that teacher appraisal feeds into professional and school development.
- Establishing periodic career-progression appraisal involving external evaluators.
- Preparing teachers for appraisal processes and strengthening the capacity of school leaders for teacher appraisal.
- Establishing links between teacher appraisal and career-advancement decisions.

*Source:* (OECD, 2013<sup>[20]</sup>).

***Helping students to succeed***

Improvements in teacher quality play undoubtedly an important role in achieving better educational outcomes, but strengthening students' willingness to succeed is also essential. Icelandic students generally feel happy at school, which is an advantage of the education system. Stronger student assessment mechanisms, however, may be necessary to help improve school outcomes. Clearly defining the knowledge and skills students are expected to have attained at different stages of their education through standardised benchmarks to assess performance is important in this regard (OECD, 2009<sup>[21]</sup>). Developing large-scale tests can be one way to assess student performance and also provide incentives to students to put greater effort into learning. But standardised tests have also drawbacks, including narrowing education goals to passing needs, that should be considered carefully (OECD, 2016<sup>[22]</sup>). Another possible (or complementary) approach is developing teaching capacity in assessing against standards or providing clear guidelines in marking assessments, and/or though effective peer-reviews (OECD, 2009<sup>[21]</sup>).

**Figure 1.11. There is scope to improve teachers' training and professional development**



Note: Percentage of lower secondary education teachers.

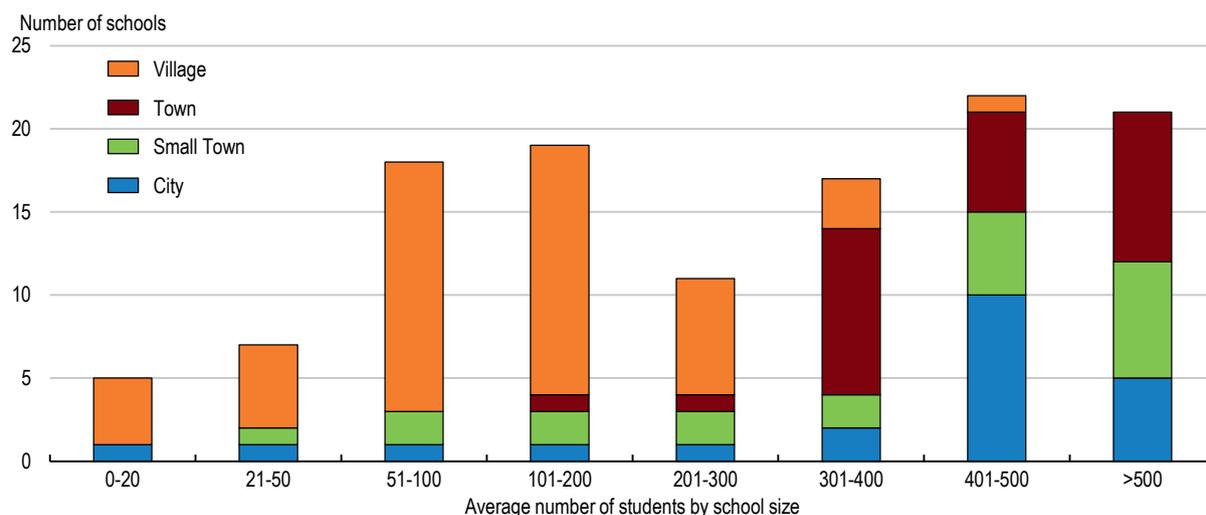
Source: TALIS 2013 and OECD calculations.

StatLink  <https://doi.org/10.1787/888933996638>

### *Reducing inequalities in education quality*

A quarter of the schools covered by the PISA sample (120 schools in total) are small, below 100 students, and are located mostly (80%) in rural areas (Box 1.1) (Figure 1.12). This structure serves regional needs but also raises challenges to the equitable distribution of educational resources and quality services across the country. Small schools in rural areas in particular, accounting for 40% of the PISA school-sample, may face additional obstacles in providing high quality education due to low population density and geographic isolation (Echazarra and Radinger, 2019<sup>[23]</sup>).

**Figure 1.12. Many compulsory schools are small, 2015**



Source: PISA 2015

StatLink  <https://doi.org/10.1787/888933996657>

Disadvantaged schools (i.e. those at the bottom quarter of school socio-economic profile) and rural schools in Iceland tend to have relatively more teacher resources compared to their counterparts, on the basis of 2015 PISA results (OECD, 2018<sup>[16]</sup>), and are also better equipped (OECD, 2016<sup>[22]</sup>). Such schools, however, are more likely to suffer, according to principals' reports, from teacher shortages and absenteeism, and inadequate and poor quality staff. Objective indicators, such as the share of teachers with a university degree in science, and that of fully certified teachers, show a gap at the expense of rural and disadvantaged schools. This is unfortunate, as studies conclude that students taught by teachers holding a subject-specific certification do better in that subject (OECD, 2018<sup>[16]</sup>).

Well-designed incentives to attract qualified teachers to less advantaged or geographically isolated schools are important. What is more important, however, is to ensure that school funding mechanisms focus on quality and outputs rather than inputs, while ensuring effective evaluation schemes and safeguarding high equity in education. Under current arrangements there are no formal links between future resources of individual schools or local authorities and past educational performance (Ministry of Education, Science and Culture, 2014<sup>[24]</sup>). A report by the National Audit Office proposed that funding to municipalities through the Municipal Equalisation Fund should take into account improvements in quality (The Icelandic National Audit Office, 2008<sup>[25]</sup>).

An effective funding system is vital for the implementation of inclusive education policy. An external audit report assessed that the current funding mechanisms and the resource allocation framework are neither equitable nor efficient, with much scope for providing resources that can be used flexibly to support all the learners (European Agency, 2017<sub>[26]</sub>). “Grey-zone pupils”, i.e. those who are recognised by the school teams as having an additional need, but not sufficiently severe to qualify for extra funds, were flagged as a particular concern by the report as such students are often seen as “missing out”, with their needs not being met. Developing flexible resource allocation mechanisms therefore is very important, as it was also recommended by the external report. The role of the funding mechanisms and the Municipal Equality Fund are currently under evaluation in the context of the Education Policy 2030 review.

Internal and external evaluations and monitoring of school operations are part of the legislative framework for education in Iceland, and publishing information is an established practice. All schools are required to have in place a system of internal evaluation and make the results publicly available, along with a reform plan. The Directorate of Education conduct external evaluations for compulsory schools in co-operation with municipalities, and for upper secondary education through independent evaluators. The results of such assessments are also made public. Evaluations, however, are not frequent but rather take place every 10 years (or dependent on risk assessment) in the case of compulsory schools and 5 years in upper secondary schools. The authorities also assess school performance on the basis of results of student national tests at grades 4, 7 and 9/10, but standardised tests at the upper secondary level and mechanisms to compare student assessments between schools are not in place.

More effective evaluation and assessment are essential for improving education outcomes, while also increases transparency. The 2017 report by the external audit (see above) highlighted, in particular, the need to focus evaluation standards on quality and classroom creativity, rather than school management practices, as is currently the case (European Agency, 2017<sub>[26]</sub>). Local authorities could also consider using the results of external evaluations as an instrument to allocate funds across schools, which would enhance accountability. In addition, to strengthen the monitoring of education outcomes, the frequency of external school evaluations should be increased and cover as much schools as possible. A well-trained and adequately staffed body of external assessors is very important in this regard, as are clear and consistent guidelines for the evaluation process.

Last but not least, based on best practices, Iceland needs to develop an integrated assessment and evaluation framework bringing together student assessment, teacher appraisal and school evaluation (OECD, 2016<sub>[11]</sub>). This would help to create synergies for learning. Putting in place an efficient formal teacher appraisal system is a precondition for such an integrated approach.

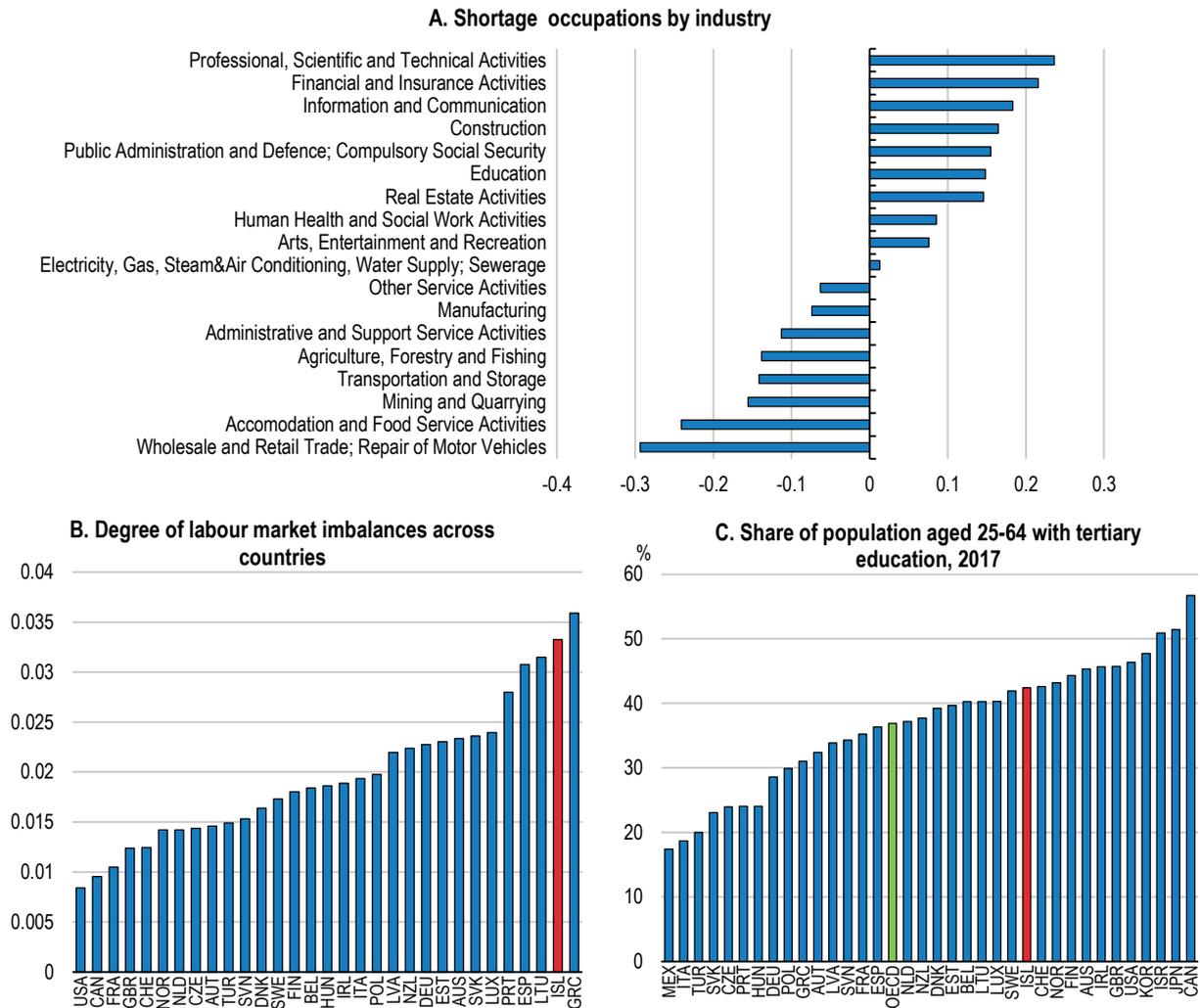
## **There is scope for better skills matching and a more rigorous analysis of skills needs**

### ***Evidence suggests the presence of skills gaps***

Iceland seems to face skills imbalances, although comprehensive data to assess their actual size are not yet available. Evidence based on the OECD *Skills for Jobs* database indicate, in particular, the presence of skills shortages, especially in occupations requiring high skills which account for most of Iceland’s employment growth over the past decade and a half (Figure 1.1, Panel E). This occurs despite a highly educated workforce in terms of the number of tertiary graduates (Figure 1.13, Panel C). Detailed sectoral OECD data suggest

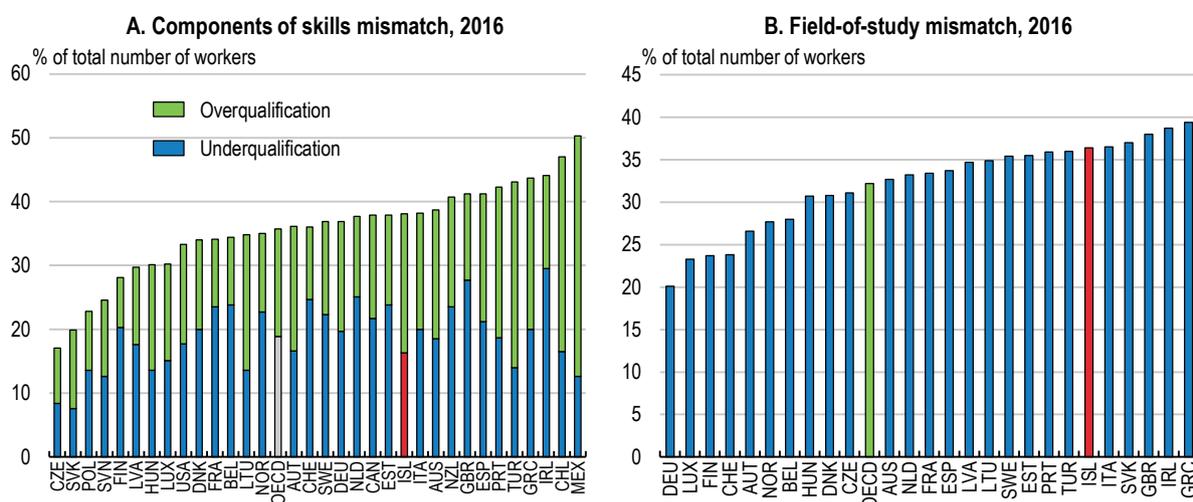
that professional, scientific and technical activities, financial and insurance, and information and communication are the occupations suffering most from skills shortages (Figure 1.13, Panel A). While these data may not reflect the latest developments, they are indicative of sectoral skills needs.

**Figure 1.13. Many sectors appear to face skills shortages**



There is also evidence of skills mismatch, both in terms of qualifications and field-of study, with many workers being over-qualified for the jobs they do, or employed in a different field from what they have studied (Figure 1.14). Although some degree of skills imbalances and qualification mismatch is expected in a dynamic economy, and shortcomings in the data need to be acknowledged (Institute of Economic Studies, 2018<sup>[27]</sup>), the results still flag scope for a better allocation of resources and higher productivity (Figure 1.13 and Figure 1.14). Looking at the possible drivers of such imbalances, structural changes in certain industries, notably tourism and financial sector, large wage differentials between the fast growing occupations and a sizeable influx of foreign labour over the past 15 years can all play a role. These may be reinforced by the challenges facing the domestic education system to adapt to changes in labour market demands because of the lack of a strong vocational stream and a quantity-oriented tertiary education, as well as shortcomings in lifelong learning programmes, as discussed below.

**Figure 1.14. Skills mismatch could be reduced**



*Note:* Qualification mismatch describes a situation for which a worker has qualifications that exceed (overqualified) or does not meet (under-qualified) the ones generally required for the job. Field-of-study mismatch arises when workers are employed in a different field from what they have specialised during their education.

*Source:* OECD Skills for Jobs database (2018).

StatLink  <https://doi.org/10.1787/888933996695>

### *Developing tools to assess and anticipate skills needs*

Skills assessment and anticipation exercises are used by many OECD countries to inform policy planning in a range of areas including education and migration. The outcomes of such exercises can also steer individuals' choices with regard to training and career pathways. Countries differ largely with respect to the range of measures employed to analyse skills needs, as well as the forecasting horizon. Some countries, such as Australia, use a variety of tools including surveys, quantitative forecasting measures, sectoral studies and qualitative methods (OECD, 2018<sup>[28]</sup>). Long-term scenarios are relatively common in Nordic countries. Norway, for instance, carries out 20-year general occupational forecasts and Denmark's model evaluates scenarios for up to 100 years in the future (OECD, 2016<sup>[29]</sup>).

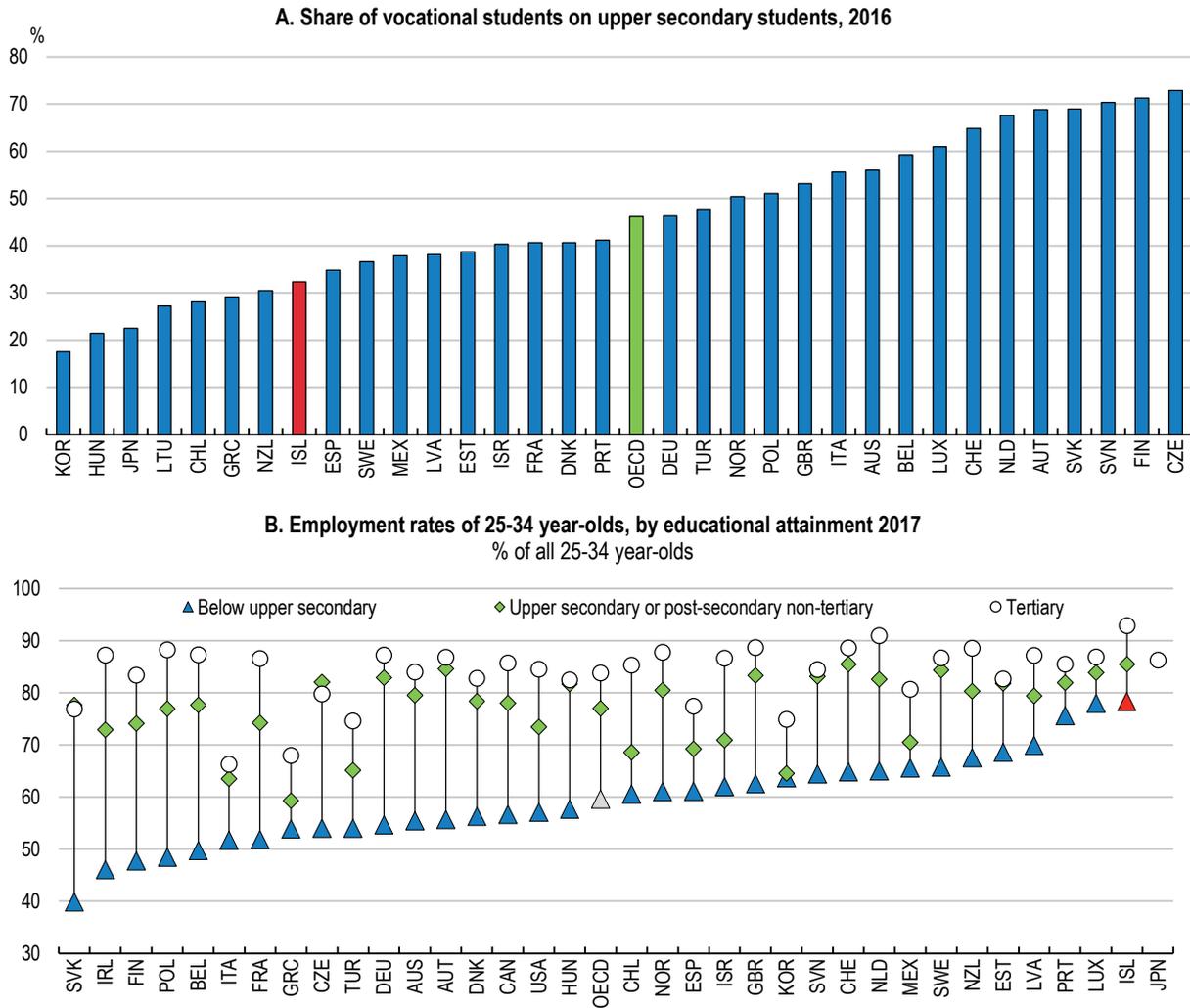
Iceland lacks a well-developed national database on skills mismatch and reliable long-term projections for the skills demanded. Forecasting and analysis of industry skill-needs were based, so far, on various ad-hoc studies rather than a systematic approach. As a positive step a committee, set up by the government, has submitted in 2018 a report focusing on the organisation, scope and requirements for a regular monitoring of skills demands. Progress in this domain is essential. The methods and tools to assess and anticipate skills needs should rely on several sources of information, both quantitative and qualitative if feasible, in line with best practice.

## Addressing skills imbalances

### *Strengthening the vocational pillar*

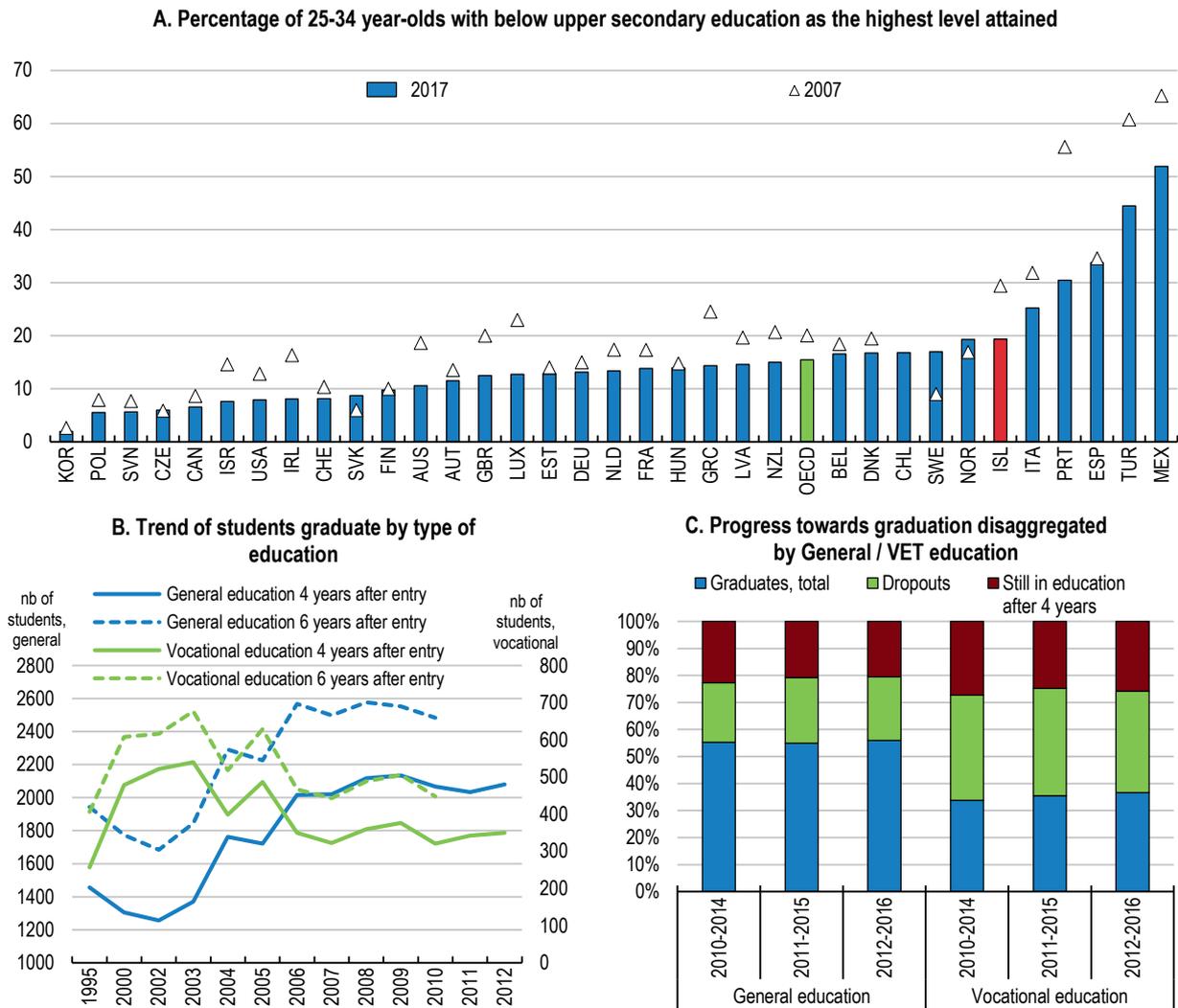
The VET system has relatively low participation rates and lacks a well-integrated work-based component (OECD, 2012<sup>[30]</sup>) (Figure 1.15, Panel A). While the employment rates of 24-34 year-olds are high in the current conjuncture, even in the case of less educated youth, a more effective VET system is vital to reduce skills-mismatch and also prepare Iceland to meet future skills demands (Figure 1.15, Panel B). A stronger vocational pillar would also help to address Iceland's dropout challenge. Around 20% of young adults (aged 25-34 years) did not have an upper secondary qualification in 2017, below the share a decade ago, but still above the OECD average and peer countries (Figure 1.16). Entrants in vocational programmes appear to be affected more by school dropouts and slow study progression than their counterparts in the general programmes probably because of the weaker core skills VET students have built up at the end of compulsory education. Although many dropouts return to education and training in their late twenties and thirties, which helps them to strengthen their skills, early school leaving still represents an impediment to the development of solid cognitive skills, according to OECD research (OECD, 2018<sup>[31]</sup>).

**Figure 1.15. Participation in VET needs to increase, despite good job outcomes**



Source: OECD Education at a Glance 2018.

StatLink  <https://doi.org/10.1787/888933996714>

**Figure 1.16. School dropouts and late completions affect VET students more**

Source: OECD Education at a Glance 2018; Statistics Iceland.

StatLink  <https://doi.org/10.1787/888933996733>

Improvements in quality are essential for a more effective and attractive VET system. Enhancing teachers' technical competencies through training programmes in the business sector, and regularly updated curricula in close collaboration with social partners, are prerequisites. Strong career guidance and good quality information on graduates' labour market outcomes are also critical to enhancing VET's attractiveness, as are more solid pathways from vocational to tertiary education. There are no separate tertiary VET institutions at present (see below).

Greater co-ordination and reduced complexity would strengthen the vocational system. Plans by the authorities to re-assess the functions of the numerous committees (70 committees, comprising around 350 members) involved in the VET administration, and define clearly their roles and tasks, are welcome steps towards a more co-ordinated governance and should go ahead. A well-functioning occupational committee, which acts as an advisory and coordinating body, is key for the effective oversight of the sector

(Musset and Valle, 2013<sup>[32]</sup>). The VET system should also become less complex in terms of programmes offered through a careful streamlining based on a well-evidenced assessment of their outcomes. It is important that less complexity does not come at the expense of diversity and innovation.

To equip students with solid practical skills, the school- and work-based learning components of VET need to be well-integrated. This is the case of countries with a well-established vocational education track such as Denmark, Germany and Switzerland. The length of workplace training provided as part of upper secondary vocational programmes varies significantly in Iceland, from 0% to 80% of the total duration of VET studies. This implies that some vocational programmes are purely school-based. More importantly, the apprenticeship training is not an integrated part of the school studies, with the apprenticeship system associated with traditional trade professions being the only exception. In other words, schools do not provide work-based positions; rather, VET students have to search them and apply to companies of interest. In certain occupations, it can be very difficult to find a placement (Steafansdottir, 2014<sup>[33]</sup>). Around half of the Icelandic students in VET appear to take the apprenticeship route, according to the EU data. This however seems to be restricted to the traditional trade professions where the system entails an effective balance between school and work-based training and clear options for further upskilling, including as master craftsman (Musset and Valle, 2013<sup>[32]</sup>).

The well-developed apprenticeship model associated with traditional trade professions should be expanded to other VET fields, introducing opportunities for workplace learning to all vocational programmes. A strong apprenticeship system in service sectors, such as tourism and information technology (IT), would be particularly beneficial given the importance of such sectors in the economy. The structure of VET programmes could also be examined, particularly with regard to the appropriate length of the school-based part. The duration varies across countries. In Norway, for example, two years of school-based learning precede two years of work-based placement, while in Denmark the school-based part accounts for one-third of the VET programmes (Jorgensen, 2015<sup>[34]</sup>). The quality of the apprenticeship system could be further strengthened by moving from a time-based to a competence-based scheme, linking success to knowledge acquisition, as for instance in Australia and the United Kingdom.

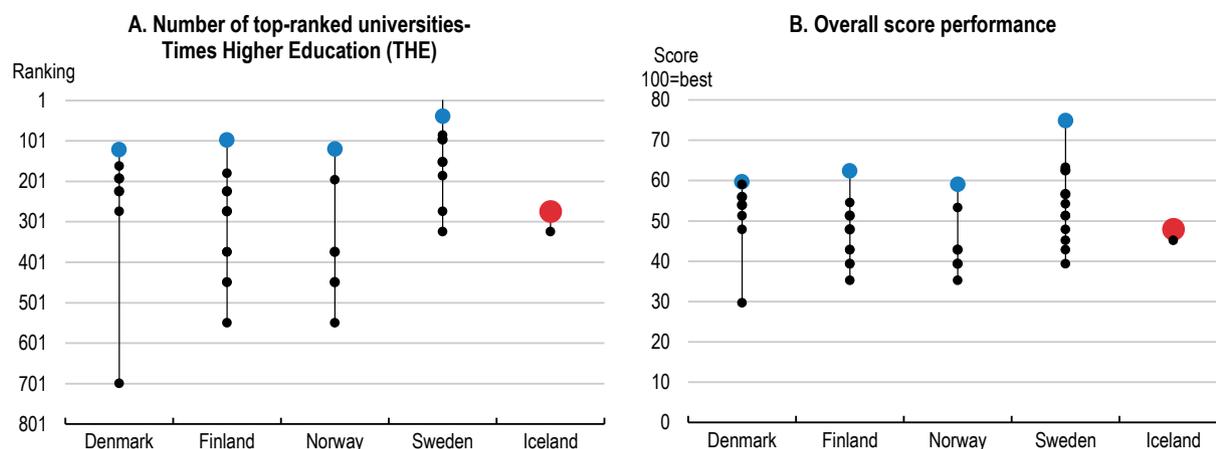
Complementary measures that encourage participation by business may also be necessary. While employers can apply for grants from the Apprenticeship Fund to subsidise the provision of work-based training, such grants are not guaranteed and are limited in number and quantity. Broadening the options of financial support would therefore be beneficial including through cost-sharing mechanisms or joint apprenticeship programmes available in some countries (OECD, 2018<sup>[35]</sup>). Increased capacity of firms to provide workplace-based training for vocational students is also of high importance.

### *Harnessing skills for a knowledge- and innovation-driven economy*

Iceland has two universities among the world's top, which is a welcome development given the relatively small size of the domestic tertiary sector, but in terms of score performance it ranks below its Nordic peers (Figure 1.17). The tertiary education system could become more quality-oriented. Current incentives make it attractive for universities to focus on enrolments, rather than performance, as funding is allocated across institutions on a per-student basis (Box 1.1) (Chapter 2). This raises concerns that the funding system prompts a bias towards inexpensive courses and popular studies. In addition, the current arrangements do not promote differentiation of institutional profiles as they provide similar

incentives for all institutions, driving homogeneity. As a positive move, a Quality Board was established some years ago, with the second evaluation cycle underway.

**Figure 1.17. Tertiary education performance could be enhanced**



*Note:* The Times Higher Education World University Rankings are the only global performance tables that judge research-intensive universities across all their core missions: teaching, research, knowledge transfer and international outlook, using 13 performance indicators.

*Source:* The 2019 Times Higher Education World University Ranking.

StatLink  <https://doi.org/10.1787/888933996752>

An ongoing reform of the university funding system aims to shift the focus from quantity to quality and outcomes. This is appropriate. Performance indicators, including the introduction of research criteria (both in terms of outcomes and laboratory/equipment intensity), should play a more dominant role in the new funding scheme to ensure higher quality outcomes. Consideration could also be given to the introduction of multi-year performance agreements between the government and each higher education institution, aiming to incentivise differentiation and quality improvement. A recent reform in Norway moved towards this direction (OECD, 2016<sup>[36]</sup>). Agreements would be valid for a specific period and portion of the funding to an institution would be linked to them. The design of such agreements could be the outcome of a dialogue with the universities. The new funding system should also take into account the gender aspect. A recent project by the University of Iceland, as part of an international project (GARCIA), showed that policies and systems of distributing funds have different impact on male-dominated and female-dominated fields at the university, resulting in funds not being distributed in a gender equitable way (Steinþórsdóttir et al., 2016<sup>[37]</sup>). Choice of studies is very-gender disaggregated, with women being overrepresented in studies that have lower pay after graduation. This can affect adversely economic equality between genders after graduation. Ensuring gender equality in research is now an important priority in the European Union.

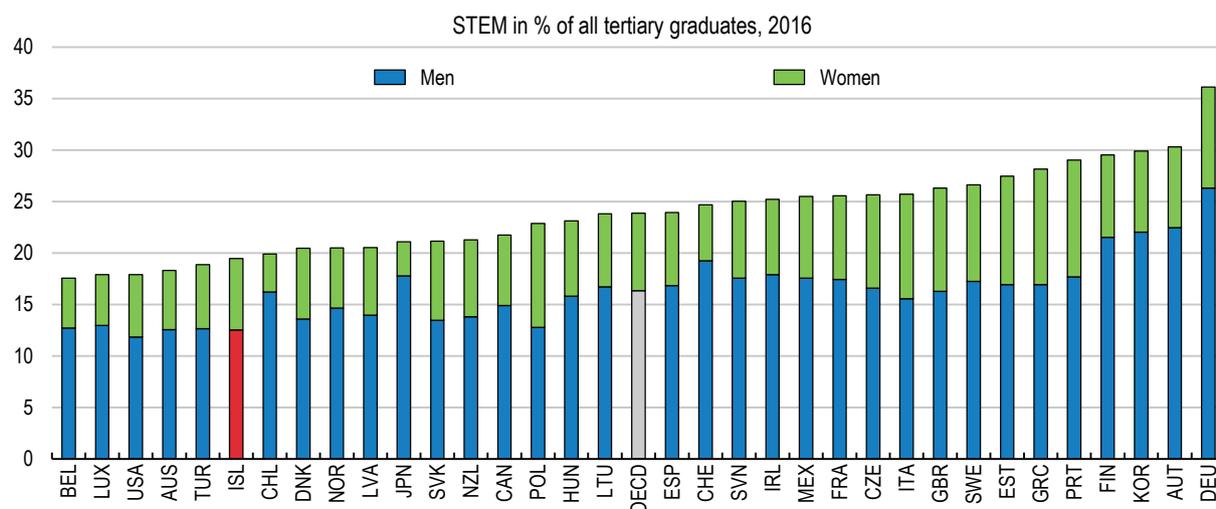
Explicit incentives under the current funding system to align the provision of tertiary education to labour market demands are generally missing. A weak response of skills development to labour market needs (Figure 1.14) can reflect a number of factors that go beyond funding mechanisms. These include, for instance, an inadequate counselling, and/or tight labour market conditions that make it easier for youth to find a job. The compressed wage distribution in Iceland could be another reason. Still, establishing a more direct link between the tertiary funding system and labour market demands would be

advisable. Differentiated awards to institutions could be considered, for instance, for those courses that provide skills corresponding closely to the labour market needs. Such a reform hinges upon the development of a rigorous methodology for assessing labour market needs and solid data on graduates' employment outcomes. Appropriate data dissemination and effective career guidance are also important for a balanced skill-mix.

Iceland does not have a tertiary VET sector. All higher education institutions have the status of universities, but some offer vocational programmes (Box 1.1). Providing an appropriate mix of vocational and academic skills is essential in an era of fast changing labour demands. A pilot project underway aims to develop post-secondary/tertiary VET programmes in cooperation with the universities. The attractiveness of such programmes would increase if students from tertiary VET programs were allowed to enter a post-graduate course without further studies.

In fostering flexible skills, an alternative option to enhancing the VET-content of university programmes would be to move to a “dual” tertiary system by introducing separate VET institutions. This is the case, for example, in Austria, Germany, Switzerland, as well as Denmark and Norway. In choosing the appropriate option, one needs to take into account the range of potential study and progression opportunities under each option, as well as the size of the tertiary market to avoid overcrowding and further fragmentation, and also, increased complexity. While there is no “optimal” size, an important challenge is to ensure that institutions are of sufficient size to promote quality. Very small-size institutions may also lack a “critical mass” in research (OECD, 2016<sup>[36]</sup>).

Education and skills for innovation are essential for embracing the digital age. Boosting STEM (science, technology, engineering and mathematics) skills, especially among women who are under-represented in STEM disciplines, is important (Figure 1.18). Iceland ranks below the OECD average in terms of tertiary graduations from such fields. At the same time, care is needed at developing STEM-related policies as not all STEM disciplines have strong labour demand. Moreover, there is growing consensus that policies should go beyond STEM subjects in building an innovation-rich skills base. This is underscored by the OECD's Innovation Imperative report (OECD, 2015<sup>[38]</sup>). For instance, some categories of arts can have a high innovation-enhancing value.

**Figure 1.18. Relatively few students graduate from STEM fields**

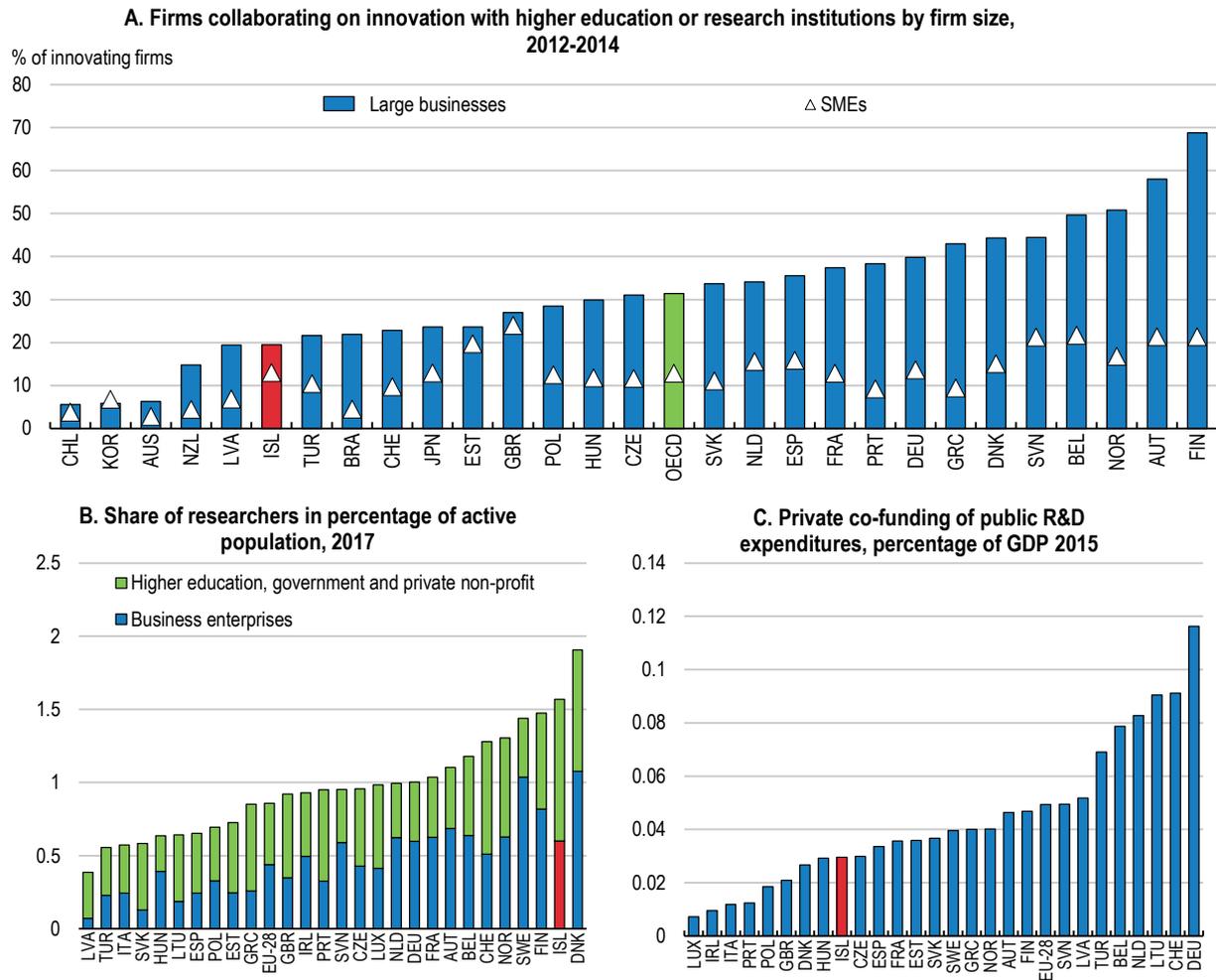
Source: OECD Education at a Glance 2018.

StatLink  <https://doi.org/10.1787/888933996771>

Entrepreneurship education can enhance innovation-relevant skills, while equipping students with broader competences such as creativity and collaborative skills that are transferable between jobs (OECD, 2019<sup>[39]</sup>). Steps towards promoting entrepreneurship skills are welcome. The Reykjavik University, for instance, provides a business development course (Entrepreneurship and Starting New Ventures) in the first year of studies and encourages students to work on projects with industry. Strengthening the supply of entrepreneurship education at tertiary as well as lower levels of education is important. In the Netherlands, for instance, all Universities and Universities of Applied Science offer entrepreneurship units in degree courses (OECD, 2017<sup>[40]</sup>). At the same time, teachers need to have initial training in entrepreneurship and continuously update their knowledge in the field. Developing entrepreneurship indicators to monitor progress and impact would provide useful insights for policy making.

There is scope to strengthen the collaboration between research and business sectors on innovation. Collaborative research is an increasingly recognised channel of knowledge transfer and skill development (OECD, 2015<sup>[38]</sup>). The technology clusters, especially with respect to fishing technology, provide successful examples of collaboration. However, collaborative research remains relatively low in international comparison, even in the case of large firms, with a little mobility of researchers between the business and university sectors (Figure 1.19). The private co-funding of public R&D expenditure is around half the EU average, according to available data (European Commission, 2017<sup>[41]</sup>).

Figure 1.19. Collaborative research could be strengthened



Source: European Innovation Scoreboard 2018 Database, Eurostat database.

StatLink  <https://doi.org/10.1787/888933996790>

Collaborative research can be improved through measures that encourage universities and business to engage more with each other. These include, for instance, innovation vouchers granted to SMEs to buy industrial or applied R&D from selected public research institutions. A number of countries use innovation vouchers, although the design differs widely across them (OECD, 2010<sub>[42]</sub>). Clearly defined eligibility criteria and a close monitoring of the impact of the vouchers on the collaboration between research and business sectors are necessary for successful outcomes.

Giving more weight to collaborative research when allocating funds to universities could be another option. A move in this direction would require encompassing in the university funding model a set of collaboration-related criteria, including the number of patents and joint academia-business publications. Such a reform would also help to improve the management of intellectual property (IP) created by the universities. While Iceland is a “strong” innovator, according to 2017 European Innovation Scoreboard, intellectual assets remains an area of weakness, with PCT patent applications falling below the EU 28 average (European Commission, 2017<sub>[41]</sub>). A technology-transfer office (TTO) was established in

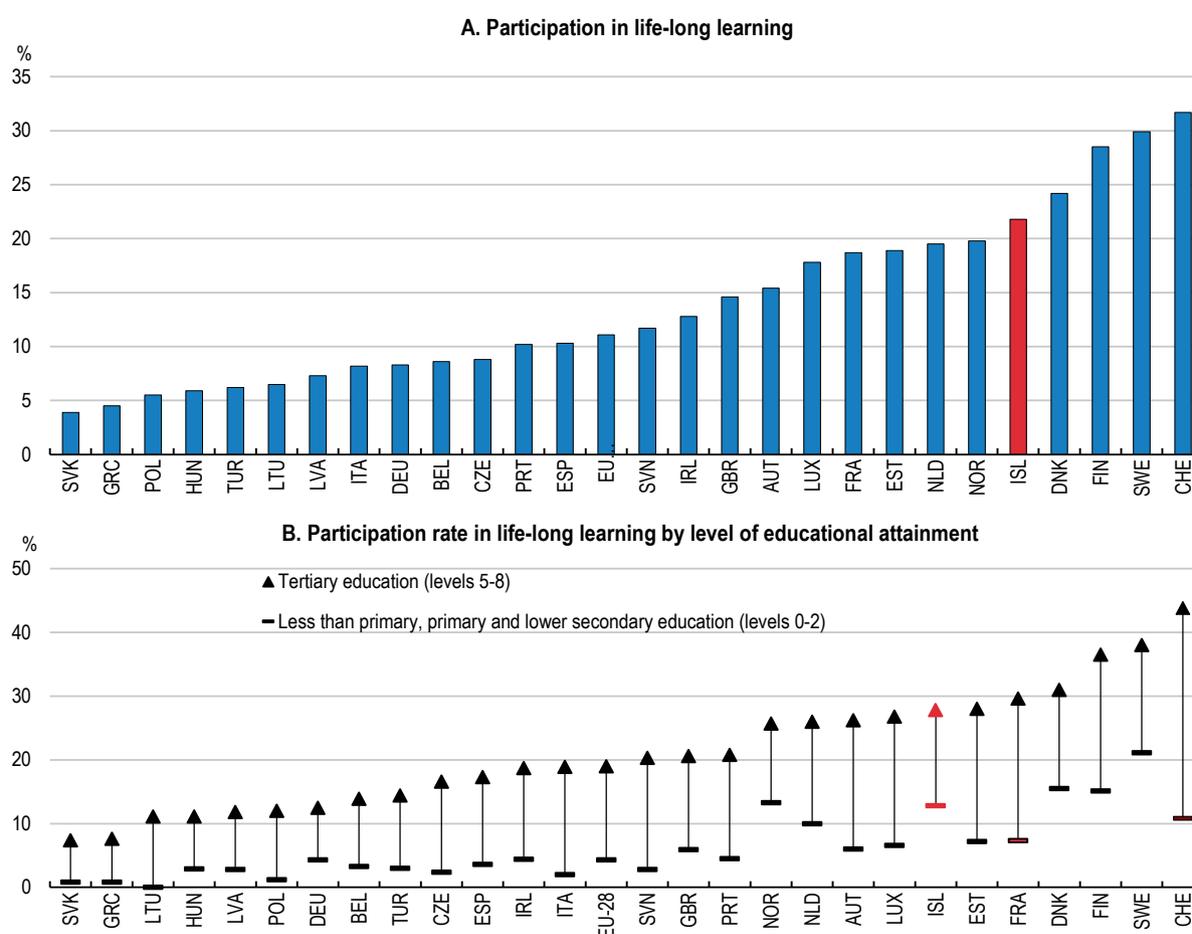
2018 with the participation of all universities. Strong skills and capacities in the management of IP are essential for the effectiveness of the TTO.

### *Ensuring lifelong learning for all*

Participation in adult learning is high in international comparison, according to the survey data, even though below the levels in other Nordic countries (Figure 1.20, Panel A). The right to continuing education and training is specified in collective agreements in Iceland, with available funding for those participating (Andersen, Hougaard and Ólafsson, 2011<sup>[43]</sup>). Education institutions also offer continuing courses, leading to diplomas and/or further studies. Overall, Icelandic workers have the flexibility of entering and re-entering the education and training system, which implies a wide-range of lifelong learning opportunities.

**Figure 1.20. Participation in lifelong learning**

Per cent of population aged 25-64 participating in education and training in the preceding four weeks, 2018



Source: Eurostat Labour Survey 2018.

StatLink  <https://doi.org/10.1787/888933996809>

Still, disaggregated data suggest that, in common with other countries, lifelong training is generally concentrated in certain groups and in particular the more educated ones. Those

having completed only compulsory education lag behind (Figure 1.20, Panel B). This is unfortunate as less educated workers could benefit substantially from taking part in adult learning, including by becoming more resilient to future labour market changes. The relative smaller engagement of the less advantaged groups to adult learning could be explained by a number of factors including weak incentives, lack of support by the employers and limited awareness about the potential benefits from pursuing continuing education and training (OECD, 2017<sup>[44]</sup>). As a positive step, the government has introduced skills assessment schemes to facilitate re-entry into the formal school system for workers that lack upper secondary qualifications, by evaluating work experience and acquired skills.

A variety of financial incentives are provided by OECD countries to encourage participation in adult learning of under-represented groups. This is justified, as workers and firms may not fully internalise the need for further investment in skills. The financial incentives provided usually by the OECD countries include subsidies, such as vouchers and grants, and tax incentives in the form of a tax allowance or tax credits. Some countries, for instance France and the Netherlands, have introduced individual learning accounts (ILAs) (OECD, 2019<sup>[45]</sup>). Such schemes attach training rights to individuals, rather than jobs, to fund future education and training and include accounts where time and/or savings for training are accumulated over time (OECD, 2019<sup>[46]</sup>). ILAs have received increasing attention in recent years as they allow for portability of the training rights between jobs and also employment statuses, facilitating career transitions. A careful design of financial incentives is vital for achieving better targeting and reducing deadweight costs. Well-disseminated information on available lifelong learning programmes and effective career counselling are necessary complements to these measures, if the strategy is to be successful.

## Making better use of existing skills

### *Active labour market policies*

Iceland's favourable labour market conditions make the implementation of extensive active labour market policies a less pressing issue (Andersen, Hougaard and Ólafsson, 2011<sup>[43]</sup>). A safety net is required, however, to cope with potential cyclical downturns in the future and concomitant labour market adjustments. The sharp increase in the unemployment rate during the crisis, from approximately 2 ¼ % of labour force in 2007 to 7.6% in 2010, and a rise in the share of disability pensioners below retirement age by around half percentage point over the same period, reinforces this view. Moreover, long-term unemployment remains well above the pre-crisis levels (9.2% of those unemployed in 2017 compared to 4.1% in 2008). Effective activation policies need therefore to remain on the government agenda, helping the unemployed to find quality jobs and upgrading skills where appropriate. A well-functioning and responsive Public Employment Services (PES) is a key element of such a strategy.

The Icelandic PES (Vinnuálastofnun) has taken significant steps toward modernisation in recent years, as assessed by an external audit, but further improvements are needed (European Commission, 2018<sup>[47]</sup>). Iceland's PES still lags behind those in other Nordic countries, especially Denmark and Sweden (European Commission, 2019<sup>[48]</sup>). Ongoing reforms aim to strengthen PES performance management and enhance the efficiency and transparency of the process. Measures to this end include the introduction of specific strategic objectives under the "Three Year Strategy", which is an important step towards target-setting, and improvements in the PES staff. Ensuring an appropriately skilled staff with competencies in different areas is among the key priorities. Current reforms also aim to upgrade the IT structure of the PES, extending digital services for its customers. This is

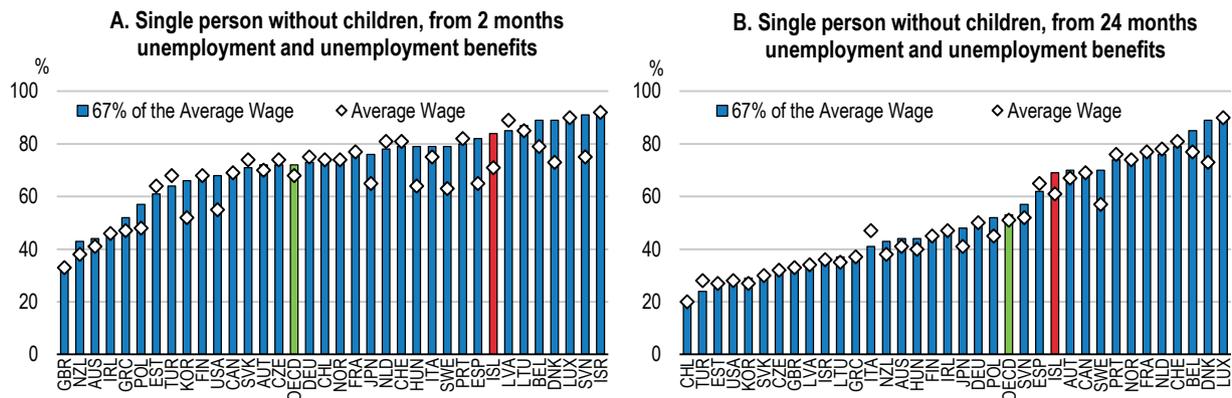
welcome and needs to be completed on time. A digitalised system would enable a greater standardisation of service delivery processes through a better documentation of provided services, increasing transparency. Moreover, such system would facilitate a better mapping of job-seekers needs and prioritisation within groups, promoting more effective activation programmes.

Reforms to modernise the PES should also aim at strengthening the evaluation and monitoring of the provided activation programmes. Systematic data collection on the outcomes of the various programmes, in terms of training and job reinstatement of registered workers, is of high importance. The improvement of performance indicators is on the PES agenda, with some steps already taken to this end. Efforts need to continue. The developed indicators should be simple and easy-to-quantify and focus on key areas, although the difficulties in constructing such indicators should not be underestimated. A rapid progress toward digitalising the PES would facilitate high-quality evaluation analysis and effective monitoring.

### *Improving financial incentives to work*

Unemployed workers in Iceland, especially from low paid jobs, have weak financial incentives to return to work (Figure 1.21). Out of work support for jobseekers is comparatively generous. Net replacement rates in unemployment (NRRs) are above the OECD average and remain high especially at long unemployment durations (Figure 1.22). This, combined with the full withdrawal of the unemployment benefit when taking up a full-time job, can increase the financial disincentives for low-paid workers to take-up a job. While this is not a problem at present as labour market conditions are buoyant, it could affect the speed of return to work in the event of a cyclical slowdown, as highlighted by a previous Survey (OECD, 2011<sup>[49]</sup>).

**Figure 1.21. High effective tax rates on entering employment**

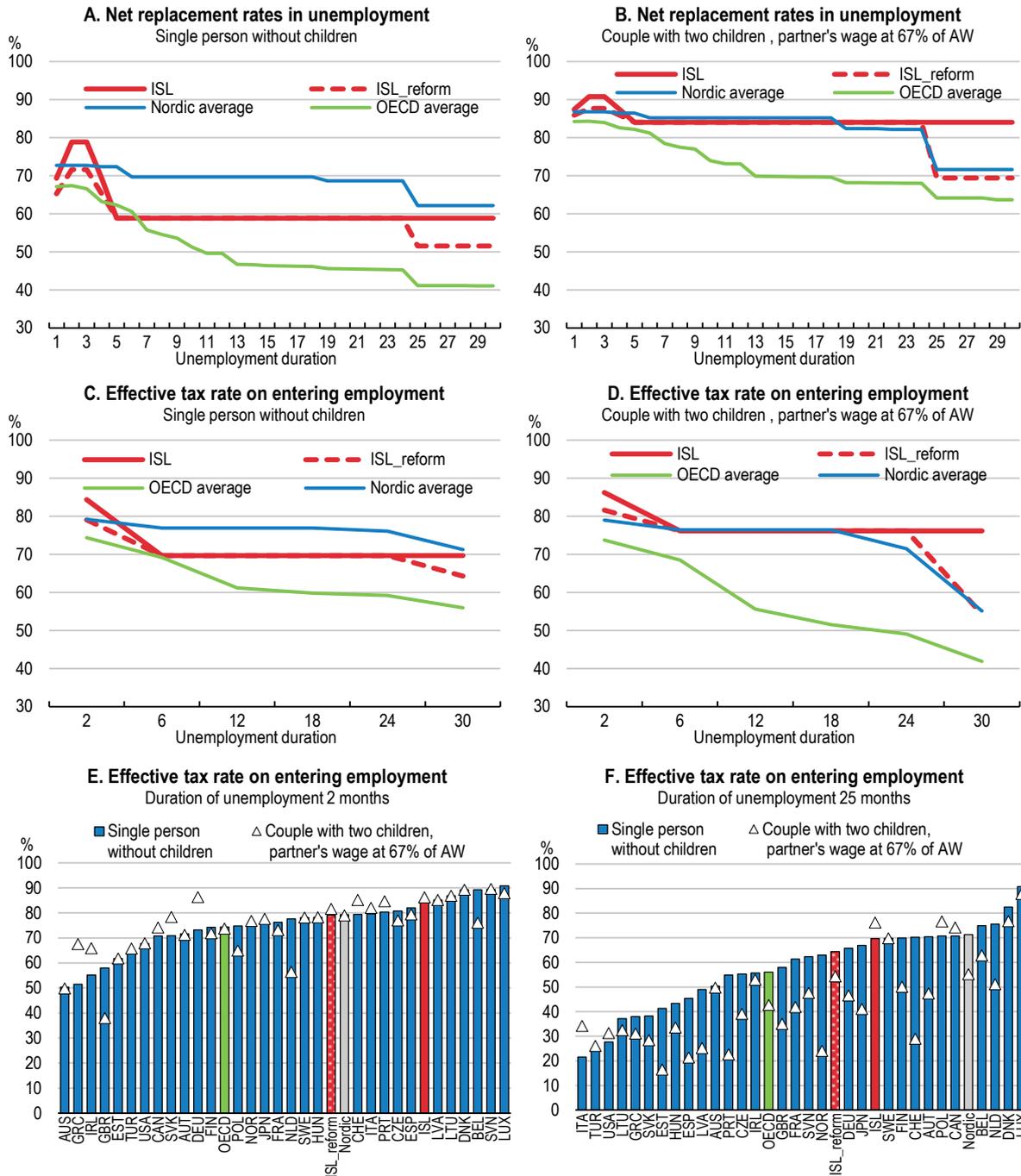


*Note:* The Effective tax rate on entering employment (or Participation Tax Rate) measures the proportion of in-work earnings that is lost to either higher taxes or lower benefit entitlements when a jobless person takes up employment. This can be interpreted as an indicator of financial disincentives to participate in the labour market. Results refer to a 40-years-old unemployed person with a “long” and continuous contribution history and previous earnings at 67% or 100% of the average wage.

*Source:* OECD, Tax-Benefit model, 2018.

StatLink  <https://doi.org/10.1787/888933996828>

Figure 1.22. Relatively high net replacement rates may reduce work incentives



Note: Net Replacement Rates in unemployment measure the proportion of previous in-work income that is maintained after 1, 2, ..., T months of unemployment. Nordic average includes Denmark, Finland, Norway and Sweden. Results refer to a 40-years-old unemployed person with a “long” and continuous contribution history and previous earnings at 67% of the average wage. For couples, the spouse is employed at 67% of average wage. Children are 4 and 6 years old. Details of the reform are explained in Box 1.4.  
Source: OECD, Tax-Benefit model, 2018.

StatLink <https://doi.org/10.1787/888933996847>

Compared with similar schemes in other Nordic and OECD countries, the duration of unemployment benefit in Iceland is relatively long (Table 1.1). In the first three months of the entitlement the benefit is related to previous earnings, while for the remaining 27 months it is paid on a flat-rate basis. Despite the relatively long duration, entitlements are not means tested. This implies that jobseekers with different family and labour market backgrounds receive the same amount after the initial three-month period that the benefit is income-linked and until the expire date (Figure 1.22). Moreover, unemployment benefits can be accessed relatively easily: claimants in Iceland are required to be employed for only 3 months before the benefit receipt, compared to an OECD average of approximately 10 months (Table 1.1). The overall strictness of behavioural requirements for maintaining eligibility is, however, in line with the OECD average (Immervoll and Knotz, 2018<sup>[50]</sup>).

**Table 1.1. Unemployment insurance benefit (UI) provisions in selected countries**

	Minimum employment requirement for UI benefit entitlement	Overall strictness of behavioural requirements to maintain eligibility	Maximum duration of regular UI benefits
Denmark	12	1.14	24
Finland	6	0.91	19
<b>Iceland</b>	<b>3</b>	<b>1.02</b>	<b>30</b>
Norway	--	1.02	24
Sweden	6	1.12	14
OECD average	10	1.04	14

*Note:* The OECD average is calculated as an arithmetic mean of the scores. Instead of the minimum employment requirement, Norway has a minimum requirement with respect to previous earnings. The “overall restrictiveness” indicator encompasses availability for taking up a job, monitoring and sanctions sub-indicators. *Source:* [OECD tax-benefit comparative tables](#) and OECD Employment Outlook 2018, Figure 5.7, OECD Publishing, Paris.

An investigation of the potential impact of the current unemployment benefit scheme on work incentives would be advisable. If deemed necessary, some parameters of the unemployment scheme, such as replacement rates, maximum duration and minimum employment eligibility requirements (Table 1.1), could be brought more into line with international practice, while addressing equity trade-offs. For example, OECD analysis carried out in the context of this Survey suggests that bringing the net replacement rates of unemployment benefits closer to the OECD average would increase incentives to work for low paid workers, especially in the case of long-term unemployed with a working spouse and young children (Box 1.4) (Figure 1.22).

An alternative (or complementary) reform is to introduce earnings disregards in the means test of the social assistance programme, and partial withdrawal of unemployment benefit entitlements for those who take up full-time work at low earnings, or temporary earnings disregards for those who take up full-time work at higher earnings. Such reform would increase the net household income for those who move into work, but would not change the net replacement rates in unemployment. A number of countries are implementing income disregards in their social assistance programmes, including Finland, Portugal, the Slovak Republic, and more recently Lithuania (OECD, 2018<sup>[51]</sup>).

#### **Box 1.4. Potential impact of reforms of out-of-work benefits on work incentives in Iceland**

The present analysis, based on the OECD tax-benefit model for Iceland, attempts to investigate the potential impact of reforms that would bring net replacement rates (NRRs) in unemployment closer to OECD average on the financial incentives to work among low paid workers.

The reform scenario adjusts the replacement rates of unemployment insurance benefit (“Atvinnuleysisdagpeningar”) in the beginning of the unemployment spell (the first 3 months) in line with the Nordic and OECD averages. This implies a reduction of 10%. It also assumes a maximum duration of unemployment insurance benefit of 24 months, instead of 30 currently, similar to the practice in other Nordic countries. The latter allows for an earlier move of the jobseeker from unemployment insurance scheme, which is not means-tested and fully withdrawn for those who take up full-time work, to a more flexible social assistance programme (municipality financial assistance, “Fjárhagsaðstoð sveitarfélaga”), that involves a more gradual withdrawal rate with respect to in-work earnings and, therefore, provides, higher incentives to work.

In the reform scenario, the social assistance programme enters with a slightly lower amount for families without children, which brings the structure of the programme closer to the standard OECD practices, where benefit amounts increase with the family size<sup>1</sup>. Nevertheless, the generosity of the social assistance programme in Iceland remains among the highest in the OECD even after this hypothetical reform.

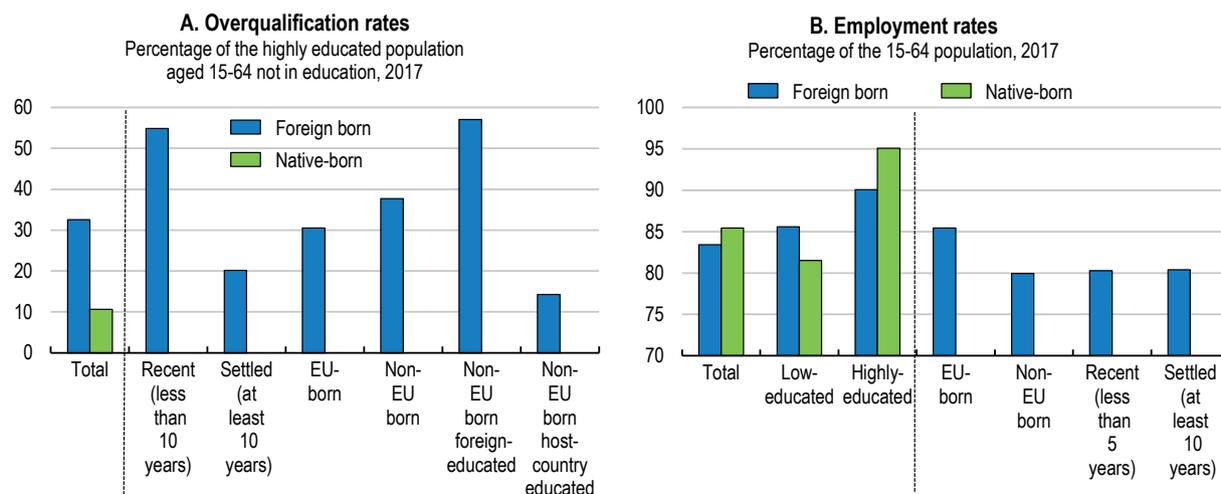
The combined effect of the above reforms is net replacement rates in unemployment closer to the OECD average and higher work incentives to take up employment (Figure 1.22). The extent of the increase in work incentives depends on the family and labour market circumstances. Incentives are particularly higher for low-paid workers with long unemployment durations.

1. OECD tax-benefit model assumes the amounts of social assistance for Reykjavik. Amounts can be lower in other municipalities. The model includes only regular benefit payments. Additional support granted on a case-by-case basis is not taken into account.

Source: OECD tax-benefit model

#### ***Making better use of immigrant skills***

A comprehensive strategy to foster strong and relevant skills should ensure the best use of immigrant skills. Immigrants make up a growing share of the Icelandic population, accounting for 14% of total population in 2017, compared to an OECD total of 10% (OECD, 2018<sub>[52]</sub>). Nevertheless, a much larger proportion of immigrants, especially non-EU born, are overqualified compared to native workers, implying that many of these workers do not manage to translate higher overall education levels into better labour market outcomes (Figure 1.23). In addition, while overall employment rates for immigrant and non-immigrant workers do not differ much, the former group underperforms when looking at the highly-educated workers. All these suggest that there is scope for making better use of immigrant skills. At the same time, regulations for the employment of workers outside the European Economic Area (EEA) are tight, with scope for more open markets for services trade through the temporary movements of non-EEA workers according to OECD Trade Restrictiveness Index (OECD, 2018<sub>[53]</sub>). This would help Iceland to meet needs in growing sectors, for instance, information technology.

**Figure 1.23. Immigrant integration in the labour market could be strengthened**

Source: OECD, “Settling In 2018: Main Indicators of Immigrant Integration”.

StatLink  <https://doi.org/10.1787/888933996866>

In the above context, there is much merit in focusing policy action on improving recruitment modalities for immigrant workers, including through mentoring and language programmes, as well as assessment and recognition of foreign qualifications (OECD, 2019<sup>[39]</sup>). As a step forward, the 2016-2019 Action Plan for Immigrants aims to improve the education status and labour market integration of immigrant workers in Iceland including through the introduction of quality criteria for language classes and a simplification of the assessment process of immigrants’ educational qualifications, as well as increased opportunities for continuing education and vocational training for immigrant workers. These measures need to be complemented by well-designed immigration rules to ensure that the skills attracted from abroad correspond closely to domestic labour market needs. In turn, this hinges upon systematic skills assessment and anticipation exercises that Iceland is currently developing, setting the foundations for stronger skills policies.

### Findings and recommendations to foster strong and relevant skills

<b>Promoting skills</b>	
Educational performance remains weak, with many students lacking strong core skills at the end of compulsory education. The score is lower among immigrant children	<p>Improve teaching quality by extending the period of practical training in initial education programmes and by providing more custom-made opportunities for teachers' professional development</p> <p>Offer effective language training programmes</p>
The analysis and forecasting of skills needs has not been conducted on a systematic basis to inform policy decision	Develop methods and tools for monitoring skills needs that rely on several information sources, preferably both quantitative and qualitative
Skills shortages and qualification mismatch weigh on productivity growth	<p>Strengthen vocational skills by better integrating work- and school-based training</p> <p>Link university funding partially to the success of tertiary courses in providing skills corresponding to labour market needs</p>
<b>Ensuring strong core skills at the end of compulsory education</b>	
Student skills are declining	<p>Strengthen literacy as a separate subject in school curricula for higher grades</p> <p>Establish minimal credit hours for pre-service class-based practice of teachers</p>
The mechanisms for monitoring education outcomes are not sufficiently effective	<p>Develop an effective system of teacher appraisal</p> <p>Increase the frequency and school coverage of external evaluations</p>
<b>Tackling skills imbalances</b>	
The vocational education and training (VET) system is complex and lacks strong co-ordination, with scope to enhance its labour-market relevance	<p>Re-assess the functions of the numerous occupational committees and streamline VET programmes based on a well-evidenced assessment</p> <p>Introduce opportunities for workplace learning to all vocational programmes</p> <p>Strengthen work-based training, including by linking the length of apprenticeships to the level of the acquired competences</p>
Tertiary education is more input- than output-oriented and does not provide sufficient vocational skills. Research-business collaboration on innovation is weak	<p>Introduce multi-year performance agreements between the government and each higher-education institution</p> <p>Provide more vocational skills at tertiary education level through an evaluation of the costs and benefits of potential reform options</p> <p>Give more weight to collaborative research when allocating funds to tertiary institutions</p>
Less educated workers participate less in lifelong learning programmes	Encourage participation in adult learning of under-represented groups, including through well-designed financial incentives
<b>Use existing skills more effectively</b>	
The Public Employment Services lacks well-developed performance indicators and is not yet fully digitalised	Proceed with the modernisation of Public Employment Services setting as priority the development of high-quality key performance indicators
Net replacement rates in unemployment are high, especially for low paid workers	Reform the key parameters of the unemployment benefits system, for instance replacement rates, maximum duration and minimum employment eligibility requirements, if this is deemed necessary to boost work incentives
Immigrant skills can be integrated better in the labour market	Ensure effective mentoring and language programmes for immigrants and improved assessment and recognition of foreign qualifications

## References

- Andersen, T., K. Hougaard and S. Ólafsson (2011), *Assessment of the Labour Market in Iceland*, Danish Technological Institute. [43]
- Brogi, L. and V. Koutsogeorgopoulou (forthcoming), *Analysing the Determinants of PISA Outcomes for Iceland*. [7]
- Directorate of Education (2017), *Results of the Lesferill Reading Fluency Tests, September*. [10]
- Echazarra, A. and T. Radinger (2019), “Learning in Rural Schools: Insights from PISA, TALIS and the Literature”, *OECD Education Working Papers*, No. 196, OECD Publishing, Paris, <https://dx.doi.org/10.1787/8b1a5cb9-en>. [23]
- European Agency (2017), *Education for All in Iceland: External Audit of the Icelandic System for Inclusive Education*. [26]
- European Commission (2019), *European Network of Public Employment Services - Annual Report 2018*, European Union. [48]
- European Commission (2018), *Benchmarking Initiative External Assessment, Summary Report 2nd Cycle-Iceland*, European Public Employment Services (PES) Network. [47]
- European Commission (2017), *European Innovation Scoreboard*. [41]
- European Commission (2015), *The Teaching Profession in Europe: Practices, Perceptions and Policies*, Eurycide Report, <https://publications.europa.eu/en/publication-detail/-/publication/4b77775b-6d06-11e5-9317-01aa75ed71a1>. [17]
- Immervoll, H. and C. Knotz (2018), “How Demanding are Activation Requirements for Jobseekers”, *OECD Social, Employment and Migration Working Papers*, No. 215, OECD Publishing, Paris, <https://dx.doi.org/10.1787/2bdfecca-en>. [50]
- Institute of Economic Studies (2018), *Analysis of the Relation Between Education, Occupations and Industry Sectors*, (in Icelandic). [27]
- Jorgensen, C. (2015), *Challenges for Worked-Based Learning in Vocational Education and Training in the Nordic Countries*, in Bohlinger, S. et al. (eds.), *Working and Learning in Times of Uncertainty*, 159–201, Sense Publisher. [34]
- Kavli, A. (2018), *TIMSS and PISA in the Nordic Countries*, in Northern Lights on TIMSS and PISA 2018, Nordic Council of Ministers, <http://dx.doi.org/10.6027/TN2018-524>. [9]
- Ministry of Education, Science and Culture (2014), *Review of Policies to Improve the Effectiveness of Resource Use in Schools Country Background Report Iceland*. [24]
- Musset, P. and R. Valle (2013), *A Skills Beyond School Commentary on Iceland*, OECD Publishing, Paris. [32]

- Nissinen, K. et al. (2018), *The Urban Disadvantage in Education? Science Achievement Differences Between Metropolitan and Other Areas in Finland and Iceland in PISA 2015*, in *Northen Lights on TIMSS and PISA 2018*, Nordic Council of Ministers, <http://dx.doi.org/10.6027/TN2018-524>. [4]
- OECD (2019), *A Flying Start: Improving Initial Teacher Preparation Systems*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/cf74e549-en>. [19]
- OECD (2019), *OECD Employment Outlook 2019: The Future of Work*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/9ee00155-en>. [45]
- OECD (2019), *OECD Skills Strategy 2019: Skills to Shape a Better Future*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/9789264313835-en>. [39]
- OECD (2019), *OECD Skills Strategy Flanders: Assessment and Recommendations*, OECD Skills Studies, OECD Publishing, Paris, <https://dx.doi.org/10.1787/9789264309791-en>. [46]
- OECD (2018), *Education at a Glance 2018: OECD Indicators*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/eag-2018-en>. [31]
- OECD (2018), *Effective Teacher Policies: Insights from PISA*, PISA, OECD Publishing, Paris, <https://dx.doi.org/10.1787/9789264301603-en>. [16]
- OECD (2018), *Getting Skills Right: Australia*, Getting Skills Right, OECD Publishing, Paris, <https://dx.doi.org/10.1787/9789264303539-en>. [28]
- OECD (2018), *OECD Economic Surveys: Lithuania*, OECD Publishing, Paris. [51]
- OECD (2018), *OECD Services Trade Restrictiveness Index (STRI): Iceland*. [53]
- OECD (2018), *Reviews of Labour Market and Social Policies: Lithuania*, OECD Publishing, Paris. [35]
- OECD (2018), *Settling In 2018: Main Indicators of Immigrant Integration*. [52]
- OECD (2017), *OECD Economic Surveys: Australia 2017*, OECD Publishing, Paris, [https://dx.doi.org/10.1787/eco\\_surveys-aus-2017-en](https://dx.doi.org/10.1787/eco_surveys-aus-2017-en). [40]
- OECD (2017), *OECD Economic Surveys: Switzerland 2017*, OECD Publishing, Paris, [https://dx.doi.org/10.1787/eco\\_surveys-che-2017-en](https://dx.doi.org/10.1787/eco_surveys-che-2017-en). [44]
- OECD (2016), *Economic Surveys: Norway 2016*, OECD Publishing, Paris, [https://doi.org/10.1787/eco\\_surveys-nor-2016-en](https://doi.org/10.1787/eco_surveys-nor-2016-en). [36]
- OECD (2016), *Education Policy Outlook: Iceland*, OECD, Paris. [1]
- OECD (2016), *Getting Skills Right: Assessing and Anticipating Skill Needs*, OECD Publishing, Paris. [29]

- OECD (2016), *PISA 2015 Results (Volume I): Excellence and Equity in Education*, PISA, OECD Publishing, Paris, <https://dx.doi.org/10.1787/9789264266490-en>. [3]
- OECD (2016), *PISA 2015 Results (Volume II): Policies and Practices for Successful Schools*, PISA, OECD Publishing, Paris, <https://dx.doi.org/10.1787/9789264267510-en>. [22]
- OECD (2015), *Economic Surveys: Sweden 2015*, OECD Publishing, Paris. [2]
- OECD (2015), *Helping Immigrant Students to Succeed at School – and Beyond*, OECD Publishing, Paris. [11]
- OECD (2015), *The ABC of Gender Equality in Education: Aptitude, Behaviour, Confidence*, PISA, OECD Publishing, Paris, <https://dx.doi.org/10.1787/9789264229945-en>. [6]
- OECD (2015), *The Innovation Imperative: Contributing to Productivity, Growth and Well-Being*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/9789264239814-en>. [38]
- OECD (2014), *Education at a Glance 2014: OECD Indicators*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/eag-2014-en>. [14]
- OECD (2014), *TALIS 2013 Results: An International Perspective on Teaching and Learning*, TALIS, OECD Publishing, Paris, <https://dx.doi.org/10.1787/9789264196261-en>. [15]
- OECD (2013), “Teacher Appraisal: Enhancing Teacher Professionalism”, in *Synergies for Better Learning: An International Perspective on Evaluation and Assessment*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/9789264190658-9-en>. [20]
- OECD (2012), *Towards a Strategy to Prevent Dropout in Iceland, OECD-Iceland Improving Schools Review*, OECD Publishing, Paris, <http://www.oecd.org/iceland/49451462.pdf>. [30]
- OECD (2011), *Economic Surveys: Iceland*, OECD Publishing, Paris. [49]
- OECD (2010), *Innovation Vouchers, OECD Innovation Platform*, <http://www.oecd.org/innovation/policyplatform>. [42]
- OECD (2009), *Review on Evaluation and Assessment Frameworks for Improving School Outcomes: Common Policy Challenges*, Issues Note, Education and Training Policies. [21]
- OECD (2005), *Teachers Matter: Attracting, Developing and Retaining Effective Teachers*, Education and Training Policy, OECD Publishing, Paris, <https://dx.doi.org/10.1787/9789264018044-en>. [13]
- OECD (forthcoming), *Human Resources in School Education [working title]*, OECD Reviews of School Resources, OECD Publishing, Paris, <http://www.oecd.org/education/school/thematiccomparativereports.htm>. [18]
- Rögnvaldsson, E. et al. (2018), *Icelandic in the Digital Age*, Meta-Net Springer. [12]
- Sigþórsson, R. (2017), *Testing or Transforming Practice: Probing an Icelandic National Initiative to Improve Literacy Education*, Literacy Vol. 51, No. 2, May. [8]

- Statistics Iceland (2018), *Educational Attainment of Women and Men Differs by Region*, Statistics Iceland, March 8., <http://www.statice.is/publications/news-archive/social-affairs/women-and-men-in-iceland-2018/>. [5]
- Steafansdottir, D. (2014), *Apprenticeship-type Schemes and Structure Work-based Learning Programmes: Iceland*, CEDEFOP. [33]
- Steinþórsdóttir, F. et al. (2016), *Gender Budgeting in Academia*, GARCIA Working Papers No. 8. University of Trento (ISBN 978-88-8443-675-7). [37]
- The Icelandic National Audit Office (2008), *The Local Government's Equalisation Fund and the Primary School. Performance Audit (summary in English)*. [25]

## Chapter 2. Improving public spending to maintain inclusive growth

*Iceland had to deeply reshape the public finances after the 2008 crisis, through both spending cuts and tax increases. The need to act swiftly and boldly left little room for appropriate design in the various spending areas. As a result, the quality of public spending – i.e. the contribution of spending to growth and less inequality - has declined. In particular, public investment remains weak, weighing on productivity, while the disability benefit system is generous, weighing on employment. Effectiveness of government spending is low, especially in education, with PISA results declining despite rising spending. This chapter identifies main challenges in spending for education, health, infrastructure, social security and other areas. Overall the authorities should strengthen the link between spending and objectives in the various policy areas, i.e. by broadening spending reviews. In particular, investment for transport, energy and digital infrastructure should be increased; in education, teacher salaries should be more differentiated and partially linked to performance; in health care, general care should be favoured against specialised care and co-payments for hospital care introduced; the disability system should more strongly aim at labour market integration of claimants; and high implicit tax rates in the tax-benefit system should be reduced, e.g. by abandoning means-testing of child benefits.*

Iceland had to reshape public finances dramatically after the 2008 crisis. During the consolidation period, which started as early as 2009, the government reduced spending in main policy areas such as health care and education on a wide scale, mainly by cutting wages and reducing public employment. Social spending, which had jumped after the crisis, was partly spared and declined only gradually thereafter. The area most affected by cuts was public investment, which was below the OECD average even before the crisis, with capacity limits becoming ever more constraining. Consolidation was successful as the country soon emerged from the ruins of its financial sector crisis to a new boom. While public spending rose across the OECD after the crisis, including in the Nordic countries, Iceland's spending to GDP ratio today is precisely where it was before the crisis hit.

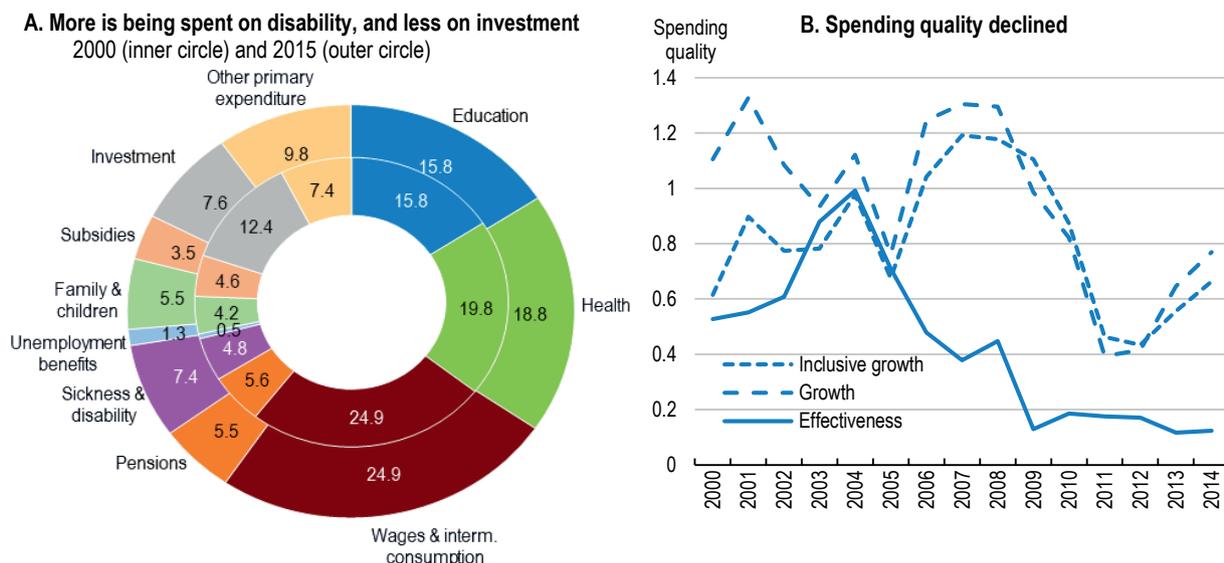
The need to react swiftly and boldly to the crisis left little time to design appropriate public sector reforms. The quality of public spending – i.e. its contribution to inclusive growth – deteriorated during both fiscal expansion and consolidation and is now clearly below pre-crisis levels. Indicators of government effectiveness also declined and remain below the OECD average. Despite high and rising education spending, educational outcomes are relatively weak. Problems also loom in other sectors where outcomes are often not commensurate with what is being spent.

Against this background, the current pick-up of the economy is an opportunity to look at the drivers of public sector efficiency. This chapter identifies the main challenges related to the public finances and their contribution to inclusive and sustainable growth, calling for comprehensive structural reform. The chapter evaluates public spending reform from both an overall budget perspective as well as for individual policy areas such as education, health care, infrastructure or social security. Rather than determining whether “more” or “less” overall spending is needed, the chapter recommends policies that make current spending levels as growth-friendly as possible while sustaining Iceland's inclusive economy.

### **The quality of public spending has deteriorated**

The quality of public spending – i.e. its contribution to growth and a more equal income distribution - has been continuously declining even before the 2008 crisis with some improvements lately (Figure 2.1). Currently spending quality is around OECD average. Below-average pension spending following a high retirement age is conducive to employment and growth, while a large disability benefit system and low public investment put a drag on growth (Bloch and Fournier, 2018<sup>[1]</sup>). Government effectiveness has declined and is now at around the OECD average, thereby exacerbating low spending quality (WorldBank, 2019<sup>[2]</sup>).

Figure 2.1. The quality of public spending has declined



*Note:* The three spending quality indicators measure the contribution of the public spending mix to growth (“growth”); to growth and equality (“inclusive growth”); and to growth taken government size and effectiveness into account (“effectiveness”). Indicators are derived from a set of regressions linking public spending and other determinants to long-term growth of around 30 OECD economies. All indicators measure spending quality relative to the OECD average.

*Source:* Preliminary OECD Public Finance database; (Bloch and Fournier, 2018<sup>[1]</sup>)

StatLink  <https://doi.org/10.1787/888933996163>

Making the composition of public spending more growth-friendly while maintaining its redistributive traits can be achieved mainly by reforms in two spending items: 1) public investment and 2) sickness and disability benefits. According to OECD calculations, increasing the share of capital spending by 0.5 percentage points, bringing it up to 2.0% of GDP, while lowering the share of sickness and disability benefits by 0.5% points of GDP, to bring it halfway back to the share reached in the year 2000, could altogether raise GDP per capita by around 3.5% in ten years and 7% in the long run. Moreover simulations suggest that such reform would benefit all households, therefore involving few efficiency-inequality trade-offs (Cournède, Fournier and Hoeller, 2018<sup>[3]</sup>). However and as will be shown, the impact of the compositional change hinges on reform design.

## Performance budgeting should be strengthened

In 2016 Iceland adopted a new budget law improving governance of the public finances. Budgeting now largely follows the principles set out for European Union countries, pioneered by Sweden, in particular by introducing numerical fiscal rules, setting up an independent fiscal council, establishing multi-annual budgeting and strengthening the top-down approach to budgeting (Downes, Moretti and Shaw, 2017<sup>[4]</sup>). The thrust of Iceland’s budget reforms were:

- Setting up a five-year fiscal policy plan describing the priorities during the legislature each time a new government is elected.

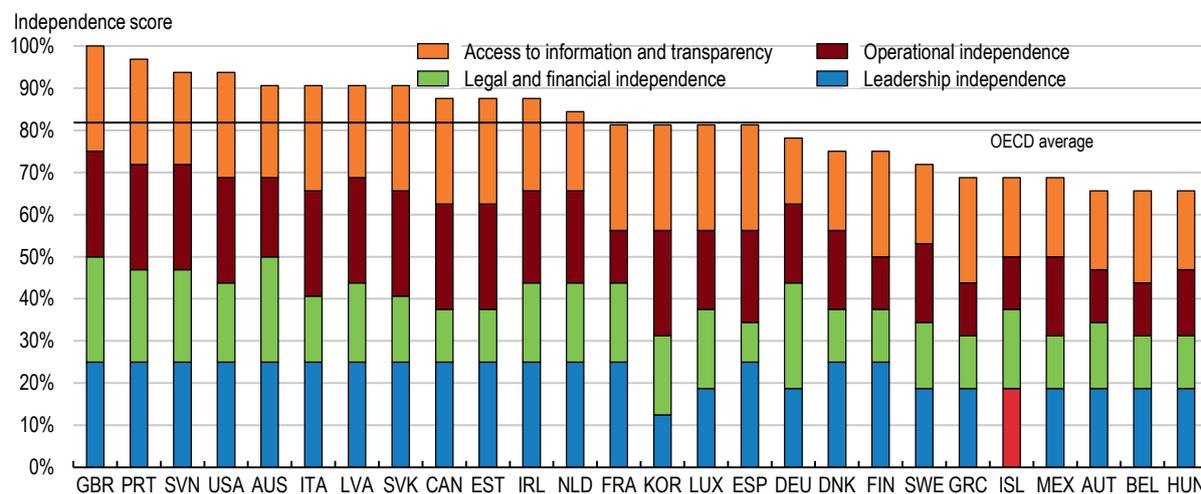
- Structuring the budget process into two distinct phases, with a rolling fiscal strategy plan in the spring setting down broad aggregates for fiscal policy for the next five years, and a government budget bill in the autumn specifying spending items for the coming budget year.
- Establishing a budget balance rule - requiring the annual deficit to remain below 2.5% of GDP and the budget to be balanced over a five-year period - and a debt rule requiring gross debt (national definition) to remain below 30%. Debt exceeding the 30% threshold must be reduced annually by 1/20 (correction rule) over three years.
- Providing more strategic oversight to the minister of finance and the government cabinet in the budgeting process, while increasing flexibility of line ministries in fund allocation.
- Strengthening the link between spending and outcomes (performance orientation).
- Establishing an independent fiscal council, which surveys whether fiscal policy is in line with the organic budget law.

The new framework has proven successful in maintaining budget discipline, although this was facilitated by the favourable economic situation. The “whole of year” approach streamlined budget deliberations. The authorities consider that the new budget law improved ownership of and responsibility for the budget. The finance ministry is exerting more control over the budget submitted to the cabinet, while the line ministries are more flexible in disbursing allocated funds. Iceland is now one of the few countries using accrual accounting. Given the short period the framework is in place, the multi-year budgeting framework has yet to mature, and it remains to be seen whether the new budget institutions and frameworks will have a significant impact on spending quality (Pina, 2016<sup>[5]</sup>).

The fiscal council, established concomitantly with the new budget law, has a limited role (Figure 2.2). It has few resources and lacks operational independence. In some instances it seems to be ignored such as in 2018 when the fiscal strategy plan was passed even before the deadline set for the fiscal council to comment on the plan. The fiscal council has so far focussed on the budget process, namely by recommending better budget transparency, a stronger link between budgeting and outcomes, and by clarifying individual budget items. Given the small size of the country and potential overlap of their areas of work, the government might consider a stronger collaboration between the national audit office and the fiscal council, or even merging the two agencies under a joint roof. This is what Lithuania did in 2015 when creating its own fiscal council, building on the high reputation of the national audit office (OECD, 2018<sup>[6]</sup>).

**Figure 2.2. The fiscal council is relatively weak**

Independence of fiscal councils in the OECD, 2017



Source: von Trapp and Nicoll (2017)

StatLink  <https://doi.org/10.1787/888933996885>

Spending reviews could further help improve the efficiency and impact of public spending. Spending reviews provide a link between financial accounting and performance budgeting, obliging ministries and agencies to set priorities, as required by the new organic budget law. The government started spending reviews on small budget items in the ministry of justice and the ministry of industry and innovation. Against this background, spending reviews should be extended to areas such as education, health care or social welfare, which make up a large part of public spending. Also, peer-review exercises with other countries such as the United Kingdom, the Netherlands or the Nordic countries, could speed up knowledge transfer and implementation of best practices (Box 2.1). As pointed out in earlier Surveys and suggested by the national audit office, the government should carry out spending reviews as follows (OECD, 2013<sup>[7]</sup>):

- A permanent expert unit in the MOF should undertake spending reviews.
- The MOF should decide on the areas to investigate without the need for line ministry approval, with line ministries providing inputs as required.
- The MOF should run a multi-year cycle of spending reviews so that all major spending programmes have been reviewed by the year before elections.
- Decisions on strategic-spending review recommendations – programme expansions or cuts - need to be made at the cabinet level as they are highly political.

### Box 2.1. Spending review: budgeting for performance

Spending reviews are a budgeting tool used in all but six OECD countries, serving to identify areas for potential savings and to improve alignment of public expenditure with strategic and political priorities. A key characteristic of most spending reviews, which differentiates them from other budgeting tools, is that they systematically analyse baseline expenditures to assess scope for savings. This contrasts with the normal focus in the budget on competing demands for incremental increases in spending, as pointed out in a Survey carried out by the OECD Senior Budget Officials (SBO) in 2018. Against this background, spending reviews are politically sensitive.

Spending reviews are resource-intensive and so are not typically applied to all expenditures annually. Denmark, the Netherlands and Germany conduct limited spending reviews of selected spending programmes each year, to improve spending and administrative efficiency and reprioritise spending within a limited area. In contrast the UK applies comprehensive spending reviews, carried out every few years, to identify savings across the whole of government and align the budget to policy priorities. More recently Ireland went from periodic “comprehensive reviews of expenditure” towards a rolling series of reviews that can feed into the budgetary process each year.

The main challenges in implementing spending reviews are the lack of performance data or their poor quality. Information on performance are crucial in enabling budget analysts to make informed decisions about the effectiveness of different types of expenditure. The 2018 SBO Survey also points at the need to strengthen follow up on implementation of spending review recommendations. Notable innovations include Canada’s *Policy on Results*, which looks at spending across all of government and applies a results-driven, rather than a fiscally-driven, approach to spending assessment. In 2017 the UK introduced the concept of a “Public Value Framework”, which focuses not only on the potential for value creation, but also whether the conditions to realise that value are met.

*Note:* The network of Senior Budget Officials shares experience and best practice in the area of budget performance and results.

*Source:* (OECD, 2019<sup>[8]</sup>)

Comprehensive cost-benefit analysis for large infrastructure projects could help prioritise projects, keep cost under control and avoid supplementary budgets. Strengthening institutional and individual responsibility – a ministry or senior official held responsible for project costs and outcomes – could also improve project implementation and help avoid cost overruns. An additional measure would be to require qualified majority in parliament for supplementary bills.

## Decentralisation should be modernised

Despite its small size, Iceland is quite decentralised. Municipalities account for more than a third of total government spending, with responsibilities ranging from education and social welfare to infrastructure and transport. Following the crisis-related deterioration of municipal finances, the government in 2011 tightened the intergovernmental fiscal framework by imposing a budget balance rule – municipal operating budgets must be balanced over three years – and a debt rule, with debt required to be kept below 150% of

own revenue. After a painful consolidation episode for some municipalities, most now remain within the limits of the local fiscal rules.

The effectiveness of the decentralised set-up could be improved by addressing two issues:

- **Minimum size in rural areas.** 25 out of a total of 72 municipalities – down from 225 three decades ago - have less than 500 inhabitants. This implies high per-capita service cost and may prevent sufficient scale for investment projects. For instance, small schools are more expensive to run, although some small municipalities mitigate size effects through service agreements with larger municipalities (OECD, 2019<sup>[9]</sup>). The government is currently contemplating further mergers. While geographical service concentration may help raise service quality or decrease cost, it might reduce access for citizens in remote areas. Financial incentives for voluntary mergers may offer an alternative to reach spending effectiveness. Finally, size-independent equalisation grants, which undermine municipal reform, should be abolished.
- **A fragmented metropolitan area.** The capital area of Reykjavik extends over seven municipalities, and according to many observers policymaking is fragmented. The regional body covering the area has little regulatory and no financial power. Fragmentation and coordination failure could imply underinvestment at the metropolitan scale. Indeed metropolitan areas tend to exhibit faster growth and higher productivity if policy is coordinated, in particular for transport infrastructure and land use (Ahrend et al., 2014<sup>[10]</sup>). The government should hence consider different variants for better policy coordination at the metropolitan level, for instance by assigning the capital region a stronger role or by creating special bodies in individual policy areas.

While the current spending assignment between central and local government seems adequate, some long-term scenario analysis points at growing structural imbalances for the municipal sector. For example spending on services for the disabled are projected to grow at more than 10% annually, above average public spending growth (Analytica, 2018<sup>[11]</sup>). Such growth rates require a deeper look into the mechanism of disability spending and might require a redesign of the intergovernmental fiscal framework if they persist.

## Education spending needs better impact

Icelanders are well educated but there are signs that the education system could deliver more for what is spent. While the share of spending on primary and secondary education in GDP is among the highest in the OECD and rising further, PISA test results have been gradually declining over the past 15 years. And while spending on tertiary education is rising even more rapidly, the quality of tertiary education has not followed suit (see chapter 1). Policy research suggests that the quality of education and the efficient use of the resources dedicated to education is key in ensuring high education outcomes (Hanushek and Wössmann, 2010<sup>[12]</sup>). This section deals with structural spending reforms in education.

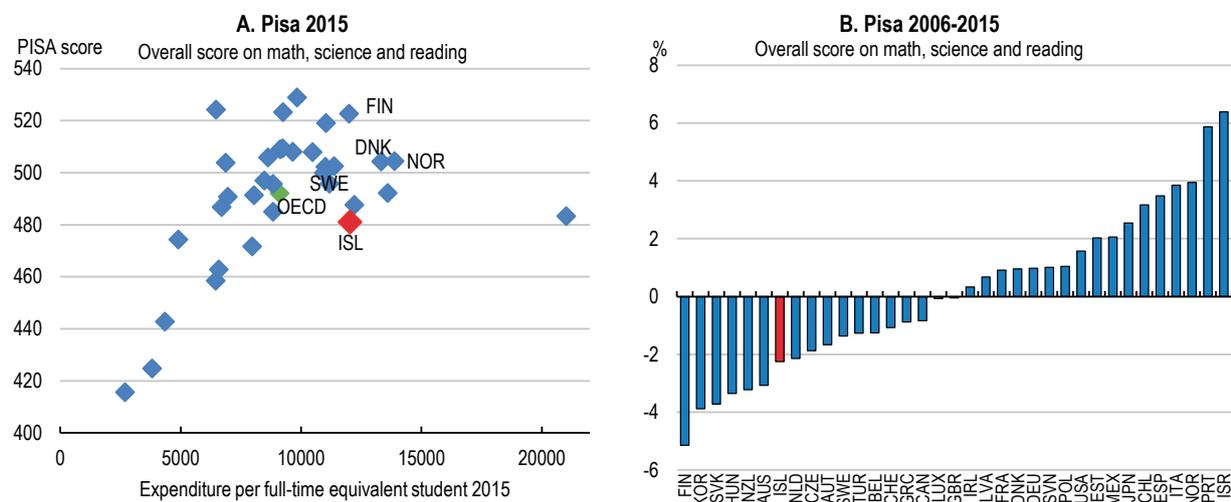
### *From childhood to PISA*

PISA, the international test for 15-years old students, suggests that the quality of compulsory education in Iceland has deteriorated over the past 15 years (see chapter 1). While outcomes were around the OECD average in the first decade of the millennium, the country now is below the OECD average and clearly below the other Nordic countries (Figure 2.3). Boys fare worse than girls in languages, and immigrant children fare worse

than those born in Iceland (see chapter 1). Yet the system is very egalitarian as disparities across schools and between high- and low achievers are small, and parent's economic background plays a smaller role for student outcomes than in other OECD countries (Dagsson, Karlsson and Zoega, 2018<sub>[13]</sub>).

**Figure 2.3. Performance of compulsory education is low despite high spending**

Spending per student and overall PISA results, 2015



Source: Education at a glance.

StatLink  <https://doi.org/10.1787/888933996904>

Making up around 90% of total education spending, the payroll for teachers is by far the most important spending item. This is why the best-performing countries in PISA are strongly focusing on teachers, with a wide range of career and compensation structures (OECD, 2018<sub>[14]</sub>). Iceland's current teacher compensation structure stands out by three factors (chapter 1):

- Teacher's wages in primary and lower secondary education are relatively low compared to other professions
- Wage progression is lower than in most other OECD countries and strictly based on seniority rather than performance
- Wages vary little between school levels, disregarding that complexity and challenges are rising from per-primary to primary and secondary school.

The compensation structure partially reflects Iceland's low wage distribution (Key Policy Insights and chapter 1). Against this background, the compensation system should attract high quality teachers and reward them better for their contribution to educate the young. If needed, additional spending on teachers should be financed by reducing spending on non-teaching staff which is much above OECD average.

Iceland's education system is highly decentralised. In 1996 the government moved responsibility for funding primary and lower secondary education from the central to the local level and to the schools, with a concomitant shift of the income tax. An equalisation fund helps poorer and high-cost municipalities. Some observers argue that decentralisation

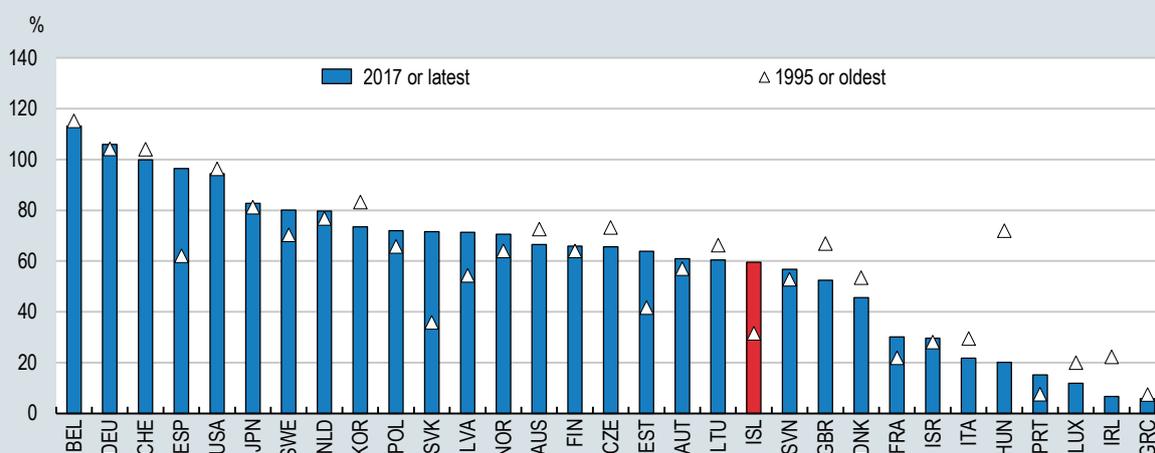
set the stage for the decline of education quality, as municipalities were neither willing nor able to maintain education standards, sometimes citing the Swedish case (OECD, 2019<sub>[15]</sub>). However recent research suggests that decentralised school systems perform better overall (Box 2.1). Against this background and to get the most out of Iceland's decentralised school system, school funding should be linked to performance indicators such as test results at school or municipal level. Also, performance monitoring by central government should be strengthened.

### Box 2.2. Decentralised education performs better

In the 1990s and early 2000s many countries devolved primary and lower secondary education to state and local governments in an attempt to bring it closer to the citizens and to raise effectiveness of the education system (Figure 2.4). While the curriculum usually remained under the responsibility of higher government, the power to fund and manage schools and teachers was assigned to lower government levels. Governments also handed over more autonomy to schools in terms of internal organisation, finances and teaching material and methods.

**Figure 2.4. Education has become more devolved**

Share of state and local education spending in overall education spending, 1995 and 2017.



Source: OECD National Accounts, government expenditure by function. Data are non-consolidated across government levels, explaining that some shares exceed 100%.

StatLink  <https://doi.org/10.1787/888933996923>

In an attempt to assess the role of the institutional set-up for education performance, the OECD carried out a multivariate econometric analysis. In a panel estimation, different measures of fiscal and administrative decentralisation as well as of school autonomy were linked to the international PISA test outcomes. While educational outcomes naturally depend on country-specific policy design, overall results suggest that handing over more power to bodies more directly involved with educating the young has overall positive effects for education outcomes.

In particular:

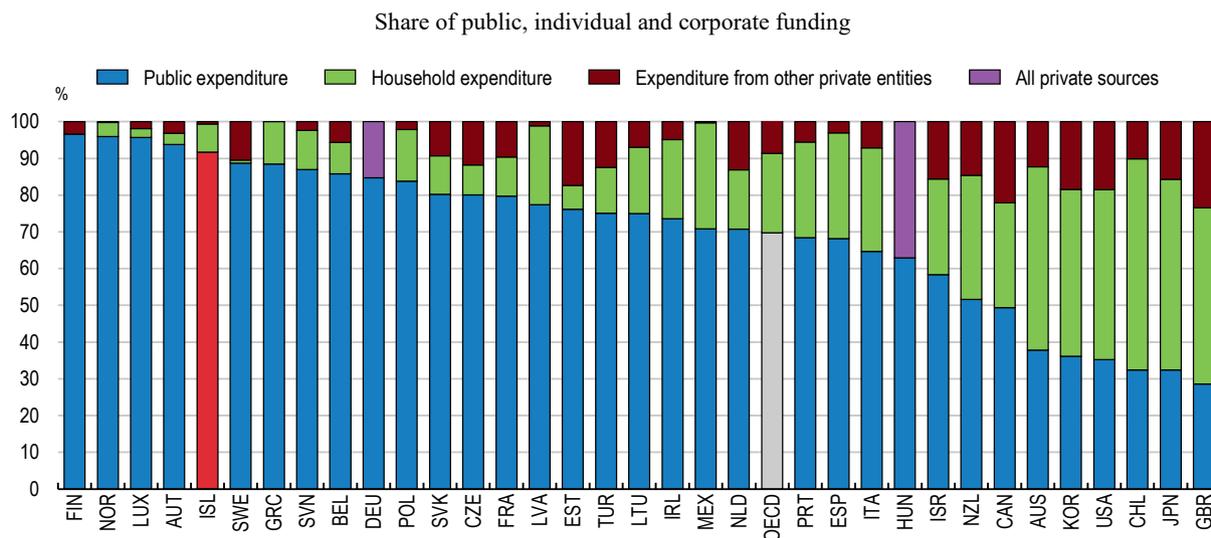
- The relationship between decentralisation and PISA scores is consistently positive, regardless of whether one looks at the sub-central revenue share, tax share, spending share, tax autonomy or decision-making power. For instance, a 10 percent point increase in the subnational revenue share is associated with a 6 point increase in PISA scores.
- The relationship between school autonomy and PISA scores is also positive. When including school autonomy in the same estimations, the effects of administrative and fiscal decentralisation become stronger.
- These results are stronger and more consistent for unitary countries than for federal countries, probably as a result of more comprehensive reform.
- Administrative decentralisation slightly increases the gap between high- and low-achievers, while fiscal decentralisation has no distributional effects
- Results for individual countries largely confirm the cross-country findings. Still the estimations, especially those for fiscal decentralisation, are not significant for up to half the countries, including Iceland.
- More decentralisation of taxation and decision-making is associated with higher education spending. However, the size of the effect is small.

The empirical analysis covers the period since the year 2000 so captures the long-term rather than the immediate effects of the decentralisation reforms implemented in the mid- and late 1990s.

Source: (Blöchliger et al., forthcoming<sup>[16]</sup>)

### *Tertiary education*

Spending on tertiary education has grown rapidly, as has enrolment, reflecting the education offensive after the crisis. Tertiary education is almost entirely funded by public sources, while tuition fees provide very little additional resources, similar to most Nordic countries (Figure 2.5). The corporate sector also contributes little to research and development, making Iceland's tertiary education one of the most government-dependent of all OECD countries.

**Figure 2.5. Private funding of tertiary education is almost inexistent**

Source: OECD EAG 2018, figure C3.2.

StatLink  <https://doi.org/10.1787/888933996942>

A few peculiarities distinguish Iceland's tertiary education system. With seven universities for a country of 350 000 inhabitants, the system has a hard time reaching sufficient scale, while generating overlap and duplication across study fields. Given Iceland's size and geography, the country would probably be well-served with fewer universities, with smaller ones becoming potential subsidiaries of the University of Iceland. Competition between universities plays on attracting a high number of students rather than on quality of the curriculum. Moreover, supply of study fields grew mainly in the social sciences, humanities and law, while the STEM curricula grew relatively little, likely contributing to study field mismatch observed in chapter 1.

The funding of universities could better support educational quality and performance. The current funding formula allocates around 2/3 of university revenues on a per student basis, while the remaining 1/3 is based on historical spending (chapter 1, box 1.1), prompting a bias towards inexpensive courses and popular studies. Moreover, universities tend to focus on study areas with relatively low investment cost, namely social sciences and humanities, while the technical study fields with lower student numbers and higher fixed cost risk producing deficits for the university. Against this background, funding should be more tightly linked to performance, labour market and future skill needs, as in Denmark following the reform of higher education (OECD, 2019<sup>[17]</sup>). Taking labour market needs better into consideration could also help reduce high drop-out rates. Finally, linking funding to accreditation of study fields could also help improve educational quality.

Study or tuition fees could provide additional resources and help improve quality of universities. In all OECD countries for which data are available, the wage premium derived from tertiary education is considerable, justifying the introduction of moderate tuition fees (OECD, 2017<sup>[18]</sup>). In addition, fees may enhance the quality of education by encouraging timely completion of studies, raising student expectations for value for money and increasing the responsiveness of universities to labour market demands (chapter 1). In Iceland, as in other countries, tuition fees face opposition, for fear of socio-economic segregation and barriers to higher education. Indeed, students from poorer backgrounds

tend to invest less in risky assets such as tertiary education, resulting in higher wage inequality across generations (Cox, Kreisman and Dynarski, 2018<sup>[19]</sup>). To avoid that credit constraints harm equal opportunity, higher tuition fees should be combined with a generous system of grants or income-contingent loans to at-risk students, as in Australia, the Netherlands, New Zealand and the United Kingdom (OECD, 2017<sup>[20]</sup>).

Finally, rather than investing in universities at home, the government could invest in Icelandic students abroad. Iceland's tertiary education is constrained by minimum size requirements, with some potential study areas attracting too few people to offer education at reasonable cost or sufficient quality. As a result, around 13% of Icelandic students are already studying in foreign countries, more than in most other OECD countries (OECD, 2017<sup>[18]</sup>). While subsidised loans are available to students studying abroad, funding could be strengthened further. Students abroad should get equal financial support to those studying at home. Improving support for studying abroad could also help strengthen international networks of Icelandic students and finally Iceland's integration in the world economy.

### *Private funding of universities should be strengthened*

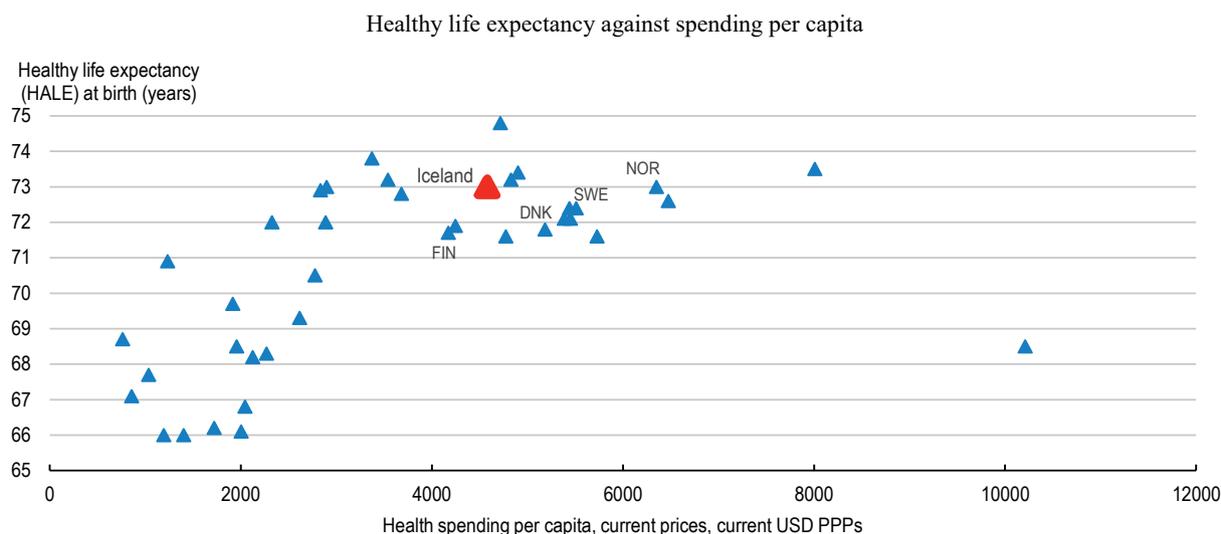
More funding from the private sector, including from abroad, could further foster tertiary education and strengthen ties between research institutions and the business sector. With one of the smallest private spending shares, Iceland forgoes a financial source which is important in other countries (Figure 2.5). Some technology-intensive sectors such as energy production or data processing could lend themselves to private sector involvement. Reykjavik University recently set up a technology transfer office. A stronger role of the private sector could help establish revolving doors for researchers between education and R&D-intensive companies and foster entrepreneurship at the universities. Strengthening private funding would require governance reforms, to ensure research institutes' appropriate participation in the revenues from commercial activities.

A similar private involvement could also help establish a stronger tertiary vocational education and training (VET) system, as described in chapter 1. Public funding of tertiary VET programmes could be partially linked to universities' capacity to attract private resources for applied research and development, with students moving between research institutes and firms.

## Health care could be made more cost-effective

### *Health care works well but is expensive*

The health status of Iceland's population is very good, helped by a comprehensive and expensive health care system (Figure 2.6). Life expectancy is among the highest in the OECD for both men and women. Access to health care is almost universal irrespective of income or place of residence. Indeed the relationship between socio-economic and health status seems to be weak, suggesting that health care reaches out to the entire population and that health issues are not concentrated in specific income groups (Olafsdottir, 2007<sup>[21]</sup>). Lifestyle is generally healthy, except with a propensity for overweight, which requires comprehensive strategies beyond health care (Griffith, 2019<sup>[22]</sup>). Icelanders are generally satisfied with their health system. Health spending is hovering around 8.5% of GDP, yet spending on long-term care is above the OECD average, partly reflecting a high share of people above 80 years, the biggest recipients of health and long-term care (de la Maisonnette et al., 2016<sup>[23]</sup>).

**Figure 2.6. Iceland spends a lot on health yet also gets a lot out**

Source: OECD health database, and WHO Global Health Observatory data repository.

StatLink  <https://doi.org/10.1787/888933996961>

### *Health reforms should help contain unnecessary spending*

Iceland's health-care is integrated, centralised, publicly funded and offers universal coverage to all residents (Box 2.3). With relatively few levers for cost containment in place, the system is largely supply-driven and overconsumption of health care has become an issue. A core challenge is to steer the use of health services away from expensive specialist care towards more cost-efficient and effective primary care (Sigurgeirsdóttir, Waagfjörð and Maresso, 2014<sup>[24]</sup>). The government's health care strategy, published in February 2019, addresses financial sustainability and proposes several cost containment measures, among them a stronger gatekeeping role for general practitioners, yet incentives for spending restraints in specialist care should be strengthened further (OECD, 2017<sup>[25]</sup>).

#### **Box 2.3. The Icelandic health funding system and the new health care strategy**

Health care is funded by the National Health Fund (IHI) which covers all residents. The IHI is funded jointly by the central government budget (around 60%) and the social security fund (around 40%). Responsibility for services for people with mental health conditions or disabilities lies with the municipalities. Unlike all other OECD countries, there is no private health care insurance. While general hospitals and primary care centres are public, the number and scope of private providers, such as specialised clinics, has increased over the past two decades, with services contracted out. The IHI pays part or all costs, with co-payments applying to primary care visits, outpatient care and pharmaceuticals. Vulnerable groups have to pay smaller co-payments or are exempt altogether. Hospital care is free of charge.

Stronger financial oversight, especially on specialist care, has been a major policy issue for at least a decade, but reforms have been small and piecemeal so far. The government's new health care strategy, presented to parliament in February 2019, is an attempt to set objectives more clearly and to define the resources needed to achieve them. Potential

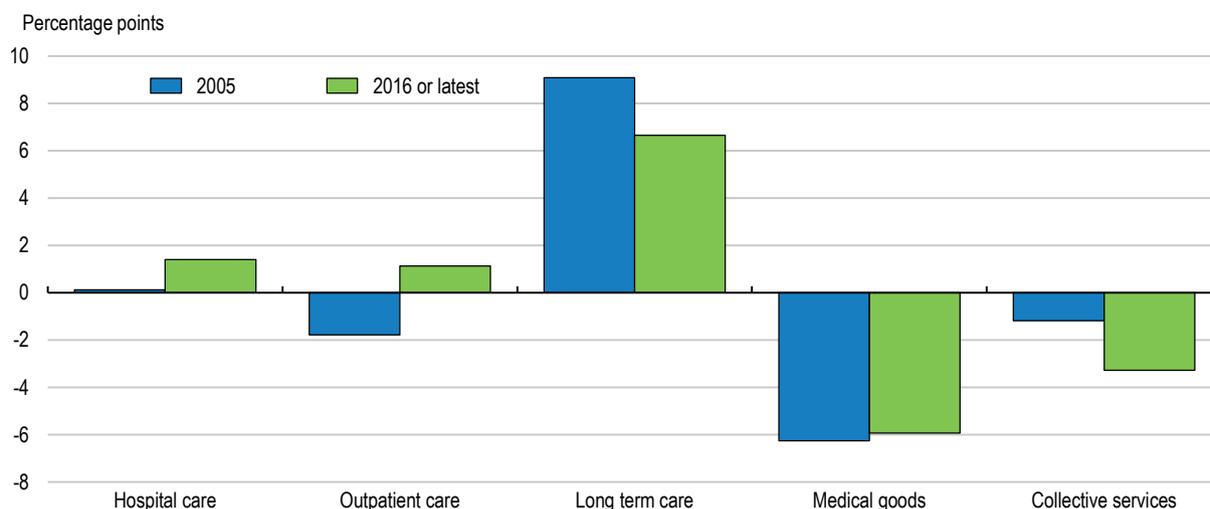
policies include: an enhanced role for general practitioners and the introduction of a risk-adjusted capitation system; better regulation of access to specialist care; activity-based payment for hospitals (diagnosis-related groups) and measures to contain pharmaceutical spending. Finally, spending on public health and prevention will be increased. Evidence from OECD countries suggests that health care reform as planned by the government can curb health spending while maintaining the health status of the population.

Source: (Sigurgeirsdóttir, Waagfjörð and Maresso, 2014<sup>[24]</sup>); (Lorenzoni et al., 2018<sup>[26]</sup>)

Spending on hospital care has risen disproportionately, probably for different reasons (Figure 2.7). While the number of hospital beds is OECD average, some indicators point at overtreatment and unnecessary surgeries (OECD, 2017<sup>[27]</sup>). Emergency rooms seem to be called upon excessively, suggesting a lack of generalist and primary care capacity. Also, since general practitioners' gatekeeping role is limited, specialists extended their outreach, setting up private clinics or working in public hospitals on a fee base. Finally, financial oversight in hospitals is relatively backward: while activity-based costing such as diagnosis-related groups (DRG) has become the norm in many OECD countries, DRG in Iceland's main hospital, the *Landspítali*, does not yet inform financial decisions. DRG could strengthen the effectiveness of hospital care, while global envelopes have to continue to ensure that activity is not artificially inflated (OECD, 2015<sup>[28]</sup>). Given *Landspítali*'s monopolistic position, the authorities should strengthen cooperation and benchmarking with foreign hospitals of similar size and scope (Berenson et al., 2012<sup>[29]</sup>).

**Figure 2.7. Hospital care is costly**

Spending on health care components, percentage points difference to OECD average



Source: OECD health database.

StatLink  <https://doi.org/10.1787/888933996980>

### ***Private cost participation could help reduce overconsumption***

Private co-payments for publicly-financed health services make up slightly less than 20% of total health care spending, which is close to the OECD average but above European and

especially Nordic countries. Co-payments apply to primary care visits, outpatient care and pharmaceuticals, with a number of exemptions limiting their impact for households with children, pensioners and the chronically-ill. The co-payment rate for prescribed drugs, the largest share in private health spending, amounts to around 40% of total pharmaceutical cost, with the rate decreasing with higher drug use.

Designed carefully, co-payments can be an effective policy to reduce overconsumption of health services, without affecting medium- and long-term health outcomes including for vulnerable groups such as children, as in Japan (Iizuka and Shigeoka, 2018<sup>[30]</sup>). Some reforms to the co-payment system could induce households to become more cost-conscious while maintaining universal access to health care. The most important reform could be to level the financial playing field between outpatient and inpatient care. Introducing co-payments for inpatient care such as for pharmaceuticals or nursing, while concomitantly lowering co-payments for outpatient services, could help reduce demand for hospital services and the associated costs.

### Public infrastructure should be planned more rigorously

Public infrastructure was the spending item hit hardest when fiscal consolidation started after 2010. Public investment, at around 3% of GDP in the run up to the crisis, fell to 1.5% of GDP in 2018, below the OECD average. Infrastructure shortages have become apparent, especially in transport. Traffic on the ring road has increased by almost 50% since 2011, and investments needed to maintain the capital stock are estimated at 50bn króna or more than 3% of GDP (Icelandic Chamber of Commerce, 2018<sup>[31]</sup>). The energy transition including the planned ban on new fossil-fuel cars by 2030 will also require investments in energy transmission. Finally, the growing data processing industry will require digital infrastructure, *e.g.* a new data cable to the United Kingdom or the European continent. The municipalities, which carry out around 40% of all public investment, face a backlog of investment projects. The government rightly plans to increase investment over the period 2019-2022, but the share in GDP will remain below the pre-crisis level.

While investing more would certainly be good, investing better could also help. According to the national construction agency, investment projects often fail to meet the timeframe as well as budget and service objectives (Framkvæmdasýsla ríkisins, 2019<sup>[32]</sup>). According to the authorities, ongoing or recently finished infrastructure projects such as a road tunnel in Iceland's North or the construction of the new national hospital (*Landspítali*) are incurring cost overruns. Cost-benefit analysis is still not commonly applied to infrastructure projects, and projects are often carried out on political rather than economic grounds.

An infrastructure planning framework should ensure that projects deliver on the expected economic gains (OECD, 2017<sup>[33]</sup>). The core of such a framework is a rigorous quality assessment of all potential projects, with the ranking of projects based on comprehensive cost-benefit analysis. Increasingly, cost-benefit analysis will also have to include the environmental impact of new infrastructure. Moreover, according to the authorities, issues of coordination across jurisdictions are prominent in the capital region, especially in coordinating land use planning and transport. As such and since 40% of investment is carried out by the municipalities, the planning framework should include stronger vertical and horizontal coordination mechanisms (OECD and Committee of the Regions, 2015<sup>[34]</sup>). Iceland could adapt elements of Norway's transport infrastructure planning framework, including comprehensive cost-benefit analysis (Box 2.4).

#### Box 2.4. Norway's comprehensive transport investment planning

Norway's system of transport infrastructure planning follows a comprehensive and coordinated evaluation, discussion, selection, approval, implementation and assessment process. The relevant infrastructure agencies propose projects to be included in the national transport plan, after internal discussion and consultations with local and regional authorities. Large projects, exceeding around 75 million Euro, are put through a two-stage "quality assessment", overseen by the Ministry of Finance and incorporating assessment by independent reviewers. The government then selects a shortlist of priority projects to become part of the national transport plan, which is submitted to parliament. After adoption, projects enter construction, and some are subject to ex post evaluation.

Cost-benefit analysis (CBA) is integral to Norwegian infrastructure planning. Most transport projects undergo a thorough assessment of their positive and negative impacts, both on transport users but also on the wider economy and society. CBA guidelines are embodied in an official document ("Circular R-109"), which is rich about how to measure the benefits of a project. This includes assumptions about future GDP growth, the lifetime of a project and discount rates, the value of work and leisure time, revenues from toll roads, or health and mortality impacts. The guidelines also require an analysis of the environmental impact. A common methodology for assessing the wider economic benefits (and costs) is currently being developed by the transport agencies.

*Source:* (OECD, 2017<sup>[35]</sup>)

Public-private partnerships (PPP) could generate more value for money invested in public assets (World Bank, 2018<sup>[36]</sup>). The potential increase in efficiency compared to traditional forms of procurement arises mainly from the (international) private sector's expertise in combining the design and operation of such assets. Iceland currently makes little use of PPPs in infrastructure development. Endorsing them more widely could not only improve managerial efficiency but also raise investment rates in areas such as transport where (public) investment is currently lacking (Araújo, 2011<sup>[37]</sup>). Yet, while PPPs better reflect the benefit stream of infrastructure projects in the public accounts, their explicit and implicit fiscal consequences - e.g. contingent liabilities - should be fully accounted for and well-monitored.

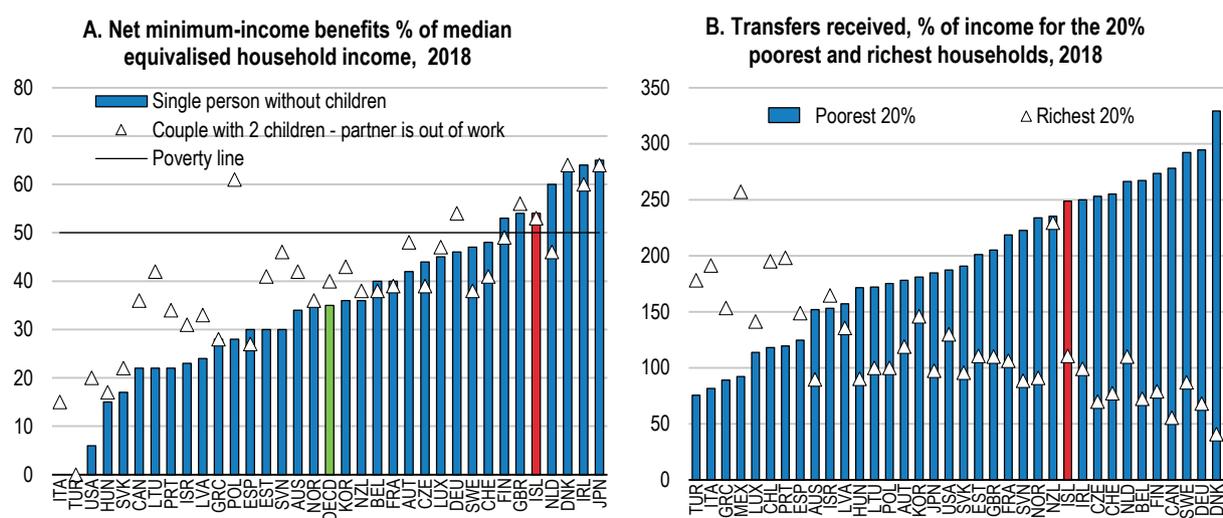
Road pricing could help manage transport demand, especially growing congestion in the capital area, and bring in additional financial resources for improvement (Icelandic Chamber of Commerce, 2018<sup>[38]</sup>). Medium-sized cities such as Bergen or Trondheim in Norway introduced road pricing schemes as early as the 1980s, thereby improving traffic management and providing funds for new infrastructure (International Transport Forum, 2010<sup>[39]</sup>). In Reykjavik, road-pricing could in addition support environmental policy, e.g. by charging more for polluting vehicles, or it could help fund public transport such as the planned urban express bus lanes. Given the political headwinds for road-pricing schemes, its benefits should be clearly and instantly visible, for instance in the form of better infrastructure both for public and private transport or higher environmental quality.

## Social protection

### *The system is well-targeted but discourages low- and medium income earners*

With around 18% of GDP, Iceland spends less on social protection than the average OECD country, although the share is small partly because the occupational second-pillar pension system is not accounted for in the public accounts. Despite being small, the system is quite redistributive. Most benefits, including first-pillar pay-as-you go pensions, are means-tested, resulting in relatively targeted support for low-income households (Figure 2.8). Strong targeting is partly the result of post-crisis fiscal consolidation which required savings while protecting the most vulnerable.

**Figure 2.8. Social benefits are well-targeted**



Source: OECD Social Protection and Wellbeing Database.

StatLink  <https://doi.org/10.1787/888933996999>

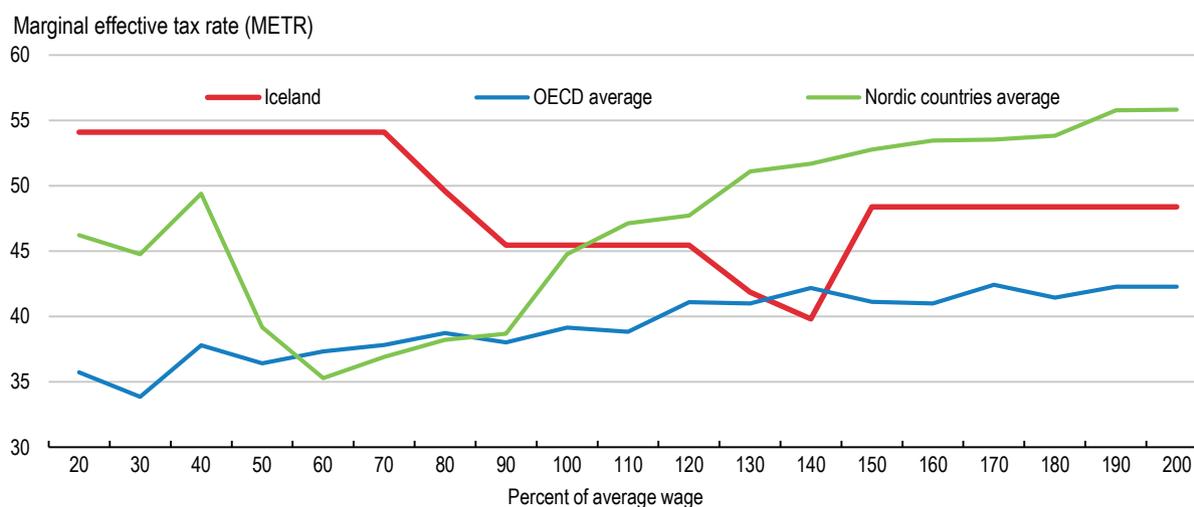
The flipside of such a targeted system is that it could discourage low-income earners. Marginal tax rates for those households are higher in Iceland than in most OECD countries, which is the combined result of a progressive tax system and the strong means-testing of benefits (Figure 2.9). METRs are particularly high for families where both parents work. Moreover, high marginal tax rates are not confined to low-income earners, but extend into the group of middle-income households (Hermansen, Ruiz and Causa, 2016<sup>[40]</sup>). For instance, child benefits are tapered gradually until around 130% of the average wage when they are withdrawn completely. Indeed and unlike for most other countries, progressivity in Iceland is generally declining with growing income. A similar pattern holds when moving from unemployment to work (see chapter 1)

The debate on social benefits versus work incentives has culminated in a proposal for a universal basic income, which is a financial support granted irrespective of market income and hence supposed to be largely incentive-neutral (Francese and Prady, 2018<sup>[41]</sup>). All other social benefits would be removed. Model simulations for Finland suggest however that a universal basic income would either be too costly or would have to be cut to barely more than subsistence levels (Pareliussen and Hwang, 2018<sup>[42]</sup>). Against this background, an option could be to abandon means-testing for child benefits – i.e. introducing a universal

child benefit -, or else start tapering at considerably higher income levels than today. Such reform would improve work incentives for low- and middle-income families. Moreover it could increase birth rates and family size (Riphahn and Wijnck, 2017<sup>[43]</sup>).

**Figure 2.9. The tax-benefit system puts a high marginal burden on low-income earners**

Marginal tax rates, from 10% to 200% of average wage for a married two-earner couple with two children, second earner at 67% of average wage



*Note:* Marginal effective tax rates (METR) show the share of additional earnings lost to either higher taxation or lower benefits. For instance, a household ranging between 30% and 70% of the average wage loses around 55 króna for 100 króna earned.

*Source:* OECD Tax Benefit Model

StatLink  <https://doi.org/10.1787/888933997018>

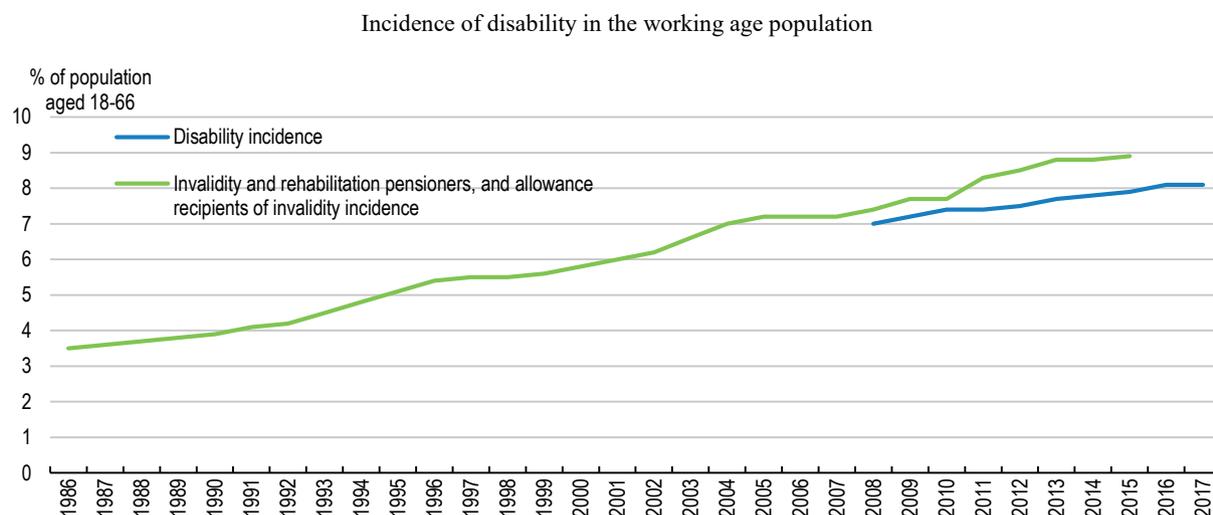
### ***Disability benefits are rising***

The most conspicuous increase in social protection spending relates to disability benefits. Since the early 1990s, the share of workers getting a disability benefit has more than doubled reaching almost 9% of the working-age population (Figure 2.10). In 2017, one-sixth of workers in the pre-retirement cohort received a disability benefit. The rise of spending on disability benefits is driven mainly by the rising incidence of mental health disorders among young claimants - around 38% of disability benefit recipients - and a growing share of musculoskeletal diseases among the older. In addition, municipal spending on disability is projected to rise annually by around 10% (Analytica, 2018<sup>[11]</sup>). As such, new types of disability prevention and management are needed to curb new caseloads (OECD, 2012<sup>[44]</sup>).

The most promising way to make spending on disability more effective and to curb unnecessary spending on benefits is likely to move the sickness and disability system from a medical-based passive benefit payer towards an active caretaker that fosters job retention and return to work (OECD, 2014<sup>[45]</sup>). In particular, potential disability should be recognised early at the workplace while priority should be given to (financial) integration measures that help workers remain in employment. Tackling disability requires extensive collaboration among health care, social security, employers and educational institutions. The Swiss reforms, which took almost a decade to mature, might show a way forward in

both improving integration at the workplace while keeping spending at bay, although mental illness still remains an issue (Box 2.5).

**Figure 2.10. Disability has risen fast**



Source: Statistics Iceland.

StatLink  <https://doi.org/10.1787/888933997037>

### Box 2.5. The decade-long reform of Switzerland's disability insurance

Switzerland witnessed a rapid increase in the number of disability pension recipients since the mid-1990s, especially beneficiaries with mental health disorders. As the caseload went up, the financial situation of the disability insurance fund deteriorated, peaking in a cumulative deficit of more than 4% of GDP in 2005. At that time, around 6% of the working-age population was entitled to a disability pension. The disquieting increase of young claimants and those with mental disorders triggered an intense public debate about the fundamental role of the disability benefit system, about targeting justified claims and about the potential to get pension recipients back to employment. Some studies commissioned by the government altogether questioned disability pension for under 30-years old claimants with mental disorders.

Between 2003 and 2016 the government thoroughly reformed the disability insurance system in several steps, basically by trying to reduce the number of new claimants and by incentivising claimants to remain in or take up work. The main thrust consisted in moving disability insurance from a medical-based, passive and rather permissive benefit payer towards a system fostering return to work (“integration before pension”), in close collaboration with employers, health and educational institutions, employment services and other parts of the social security system. The government mustered support for reform by stressing both “fairness” and the ailing finances of the disability insurance fund. The resulting change of regulations was comprehensive despite various political economy obstacles. Overall, the reforms:

- Clarified and tightened the criteria that give access to a disability pension

- Introduced more fine-grained disability degrees and pensions, to better reflect actual disability (quarter, half and three-quarter pensions)
- Reduced implicit tax rates by partially decoupling additional labour income from disability pensions
- Improved the detection of people at risk of becoming disabled, including a new form of low-threshold application to disability insurance
- Set up early intervention measures to secure job retention or to support job search, including vocational training and active job placement
- Introduced substantial wage subsidies for employers hiring disability benefit claimants

The reforms were financially successful as the annual deficit turned to a (small) surplus, and debt of the disability insurance fund decreased to 2% of GDP and should reach zero by 2030. Since 2005 the overall number of benefit claimants declined slightly, while new caseloads fell by around 50%. In 2019 the government introduced a draft bill to better address and integrate claimants with mental health disorders, whose prevalence remains high, and to reduce benefits for children of pension recipients. The government plans to strengthen incentives to work further by reducing threshold effects and implicit tax rates on labour income, which were both rejected in a referendum in 2013.

*Source:* (OECD, 2014<sup>[45]</sup>) (Swiss Federal Office for Social Insurance, 2016<sup>[46]</sup>)

### Subsidies should become less damaging

Spending on subsidies to households and firms make up around 3.5% of GDP, down from 4.6% in 2000. While a few subsidies can be justified on grounds of market externalities, they tend to undermine competition and stifle innovation. However, cutting subsidies tends to widen income dispersion, arguably since they support mainly low-productivity and low-wage sectors (Cournède, Fournier and Hoeller, 2018<sup>[3]</sup>). Addressing subsidies thus often involves political trade-offs.

Agriculture is the most important recipient of subsidies, despite employing only 2% of the labour force. Although much support comes in through tariffs and border protection, various subsidies additionally help the meat, dairy and vegetable markets (OECD, 2018<sup>[47]</sup>). Around 80% of subsidies are directly or indirectly coupled with production, *i.e.* they belong to the potentially most distorting forms of income support. By contrast, spending on agricultural innovation is declining. Support accounts for 58% of total farm receipts, more than in any other OECD country. Reforms over the past decade were limited, although the government plans to move partly away from production-related support in 2019.

Production-related subsidies are also among the most environmentally damaging, which is a particular concern for Iceland's fragile environment (OECD, 2014<sup>[48]</sup>). The current farm subsidies foster overgrazing, thereby exacerbating soil erosion - a lasting issue after the woods were cut in medieval times - and weakening flood prevention. Subsidies are only partly conditional on meeting environmental performance standards. The contribution of livestock to Iceland's high CO<sub>2</sub>-per capita emissions is above-average, even if transport currently dominates overall emissions (see Key Policy Insights). As such, support should be moved from agricultural production towards less (economically) distorting and (environmentally) damaging forms, essentially by coupling subsidies to sustainable land

management and to the production and preservation of amenities. More specific subsidies could foster agricultural innovation, especially digitalisation, and reforestation, which has a large CO<sub>2</sub> mitigation potential (OECD, 2014<sub>[48]</sub>).

### Findings and recommendations to improve the public finances

Spending quality (contribution of the public finances to inclusive growth)	
Transport infrastructure is at capacity limits, weighing on productivity. Investment needs are rising for energy and digital infrastructure	<p><b>Apply more stringent cost-benefit analysis.</b></p> <p><b>Raise investment in transport, energy and digital infrastructure.</b></p> <p><b>Introduce road pricing for demand management and funding of transport infrastructure</b></p>
The share of disability benefit recipients has doubled over the past 20 years.	<p><b>Reform the disability system by shifting the focus from paying benefits towards return to work.</b></p> <p><b>Tighten eligibility criteria while offering more support for remaining employed</b></p>
Budget governance	
Performance budgeting is not well established despite being required by the new organic budget law	<p><b>Extend spending reviews to core policy areas like education or health care, relying on international experience.</b></p> <p><b>Strengthen the role of the fiscal council and possibly merge it with the national accounting office</b></p>
Education	
Qualified teachers are lacking, especially at the secondary level. Teachers' wages hardly reflect complexity or performance	<p><b>Better reflect different complexity across school levels in teacher's pay, and make teachers more accountable for results</b></p>
Tertiary education is focused on quantity rather than quality and does not reflect labour market demand	<p><b>Adapt the university funding formula to better account for students' performance and labour market needs.</b></p> <p><b>Provide a framework for more private funding, including international sources and particularly for research and development.</b></p>
Health care	
Health care is subject to little cost oversight and prone to overconsumption. Spending on hospital care is above average	<p><b>Strengthen primary care and the gatekeeper role of general practitioners.</b></p> <p><b>Introduce co-payments for hospital care while potentially reducing them for other health services.</b></p>
Subsidies	
Agricultural subsidies are both economically distorting and environmentally damaging, especially in Iceland's fragile environment	<p><b>Decouple subsidies from production and link them to sustainable land management and the production of environmental amenities.</b></p>
Decentralisation	
Iceland is highly decentralised. Many municipalities are too small to invest or to provide cost-efficient and high-quality services. Decision-making in the capital metropolitan area is fragmented	<p><b>Increase financial support for voluntary mergers.</b></p> <p><b>Strengthen metropolitan governance through enhanced municipal cooperation or by assigning more power to the regional level</b></p>

*Note:* Key recommendations are in bold and can be found again in chapter “key policy insights”

## References

- Ahrend, R. et al. (2014), “What makes cities more productive? Evidence on the role of urban governance from five OECD countries”, *OECD Regional Development Working Papers No. 5*. [10]
- Analytica (2018), *Financial stability of municipalities in Iceland*, <http://www.analytica.is/?lang=en>. [11]
- Araújo, S. (2011), “Has Deregulation Increased Investment in Infrastructure?: Firm-Level Evidence from OECD Countries”, *OECD Economics Department Working Papers, No 892*, <http://dx.doi.org/10.1787/5kg566hgsjwl-en>. [37]
- Berenson, R. et al. (2012), “The growing power of some providers to win steep payment increases from insurers suggests policy remedies may be needed”, *Health Affairs 31*, pp. 973–81. [29]
- Bloch, D. and J. Fournier (2018), “The deterioration of the public spending mix during the global financial crisis: Insights from new indicators”, *OECD Economics Department Working Papers, No. 1465*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/2f6d2e8f-en>. [1]
- Blöchliger, H. et al. (forthcoming), *Decentralisation, school autonomy and education performance: new evidence from OECD countries*. [16]
- Cournède, B., J. Fournier and P. Hoeller (2018), “Public Finance Structure and Inclusive Growth”, *OECD Policy paper 25*. [3]
- Cox, J., D. Kreisman and S. Dynarski (2018), “Designed to fail: Effects of the default option and information on student loan repayment”, *NBER Working Paper 25258*, <http://www.nber.org/papers/w25258>. [19]
- Dagsson, E., T. Karlsson and G. Zoega (2018), “The Intergenerational Transmission of Education: A Case Study from Iceland”, *Institute of Economic Studies Working Paper 18:04*. [13]
- de la Maisonneuve, C. et al. (2016), “The drivers of public health spending: Integrating policies and institutions”, *OECD Economics Department Working Papers, No. 1283*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/5jm2f76rnkhj-en>. [23]
- Downes, R., D. Moretti and T. Shaw (2017), *Budgeting in Sweden*, OECD. [4]
- Framkvæmdasýsla ríkisins (2019), *Samanburður raunkostnaðar og áætlana*, <http://dx.doi.org/www.fsr.is>. [32]
- Francese, M. and D. Prady (2018), “Universal Basic income: debate and income assessment”, *IMF Working Paper 18/273*. [41]
- Griffith, R. (2019), *Stemming the Rise in Obesity: the Role of Public Policy*. [22]
- Hanushek, E. and L. Wössmann (2010), *Education and Economic Growth*, Elsevier. [12]

- Hermansen, M., N. Ruiz and O. Causa (2016), “The distribution of the growth dividends”, [40]  
*OECD Economics Department Working Papers*, No. 1343, OECD Publishing, Paris,  
<https://dx.doi.org/10.1787/7c8c6cc1-en>.
- Icelandic Chamber of Commerce (2018), *The Icelandic Economy: Current State, Recent* [31]  
*Developments and Future Outlook*.
- Icelandic Chamber of Commerce (2018), *The Icelandic Economy: Current State, Recent* [38]  
*Developments and Future Outlook*.
- Iizuka, T. and H. Shigeoka (2018), “Free for Children? Patient Cost-sharing and Healthcare [30]  
 Utilization”, *NBER Working Paper 25306*, <http://www.nber.org/data-appendix/w25306>.
- International Transport Forum (2010), *Implementing Congestion Charges*, [https://www.itf- \[39\]  
 oeecd.org/road-pricing-roundtable](https://www.itf-oeecd.org/road-pricing-roundtable).
- Lorenzoni, L. et al. (2018), “Cyclical vs structural effects on health care expenditure trends in [26]  
 OECD countries”, *OECD Economics Department Working Papers*, No. 1507, OECD  
 Publishing, Paris, <https://dx.doi.org/10.1787/27b11444-en>.
- OECD (2019), *Budgeting and Public Expenditures in OECD Countries 2019*, OECD Publishing, [8]  
 Paris, <https://dx.doi.org/10.1787/9789264307957-en>.
- OECD (2019), *Does attending a rural school make a difference in how and what you learn?*, [9]  
<https://doi.org/10.1787/d076ecc3-en>.
- OECD (2019), *OECD Economic Surveys: Denmark 2019*, OECD Publishing, Paris, [17]  
[https://dx.doi.org/10.1787/eco\\_surveys-dnk-2019-en](https://dx.doi.org/10.1787/eco_surveys-dnk-2019-en).
- OECD (2019), *OECD Economic Surveys: Sweden*, OECD Publishing, Paris. [15]
- OECD (2018), *Agricultural Policy Monitoring and Evaluation 2018*, OECD Publishing, Paris, [47]  
[https://dx.doi.org/10.1787/agr\\_pol-2018-en](https://dx.doi.org/10.1787/agr_pol-2018-en).
- OECD (2018), *Effective Teacher Policies: Insights from PISA*, PISA, OECD Publishing, Paris, [14]  
<https://dx.doi.org/10.1787/9789264301603-en>.
- OECD (2018), *OECD Economic Surveys: Lithuania*, OECD Publishing: Paris, [6]  
<https://doi.org/10.1787/16097513>.
- OECD (2017), *Education at a Glance*, OECD. [18]
- OECD (2017), *Getting Infrastructure Right: A framework for better governance*, OECD [33]  
 Publishing, Paris, <https://dx.doi.org/10.1787/9789264272453-en>.
- OECD (2017), *Health at a Glance 2017: OECD Indicators*, OECD Publishing, Paris, [27]  
[https://dx.doi.org/10.1787/health\\_glance-2017-en](https://dx.doi.org/10.1787/health_glance-2017-en).
- OECD (2017), *OECD Economic Surveys: Iceland 2017*, OECD Publishing, Paris, [20]  
[https://dx.doi.org/10.1787/eco\\_surveys-isl-2017-en](https://dx.doi.org/10.1787/eco_surveys-isl-2017-en).

- OECD (2017), *OECD Economic Surveys: Norway 2018*, OECD Publishing, Paris, [35]  
[https://dx.doi.org/10.1787/eco\\_surveys-nor-2018-en](https://dx.doi.org/10.1787/eco_surveys-nor-2018-en).
- OECD (2017), *Tackling Wasteful Spending on Health*, OECD Publishing, Paris, [25]  
<https://dx.doi.org/10.1787/9789264266414-en>.
- OECD (2015), *Fiscal Sustainability of Health Systems: Bridging Health and Finance Perspectives*, OECD Publishing, Paris, [28]  
<https://dx.doi.org/10.1787/9789264233386-en>.
- OECD (2014), *Environmental Performance Reviews: Iceland*, OECD, [48]  
<http://dx.doi.org/10.1787/19900090>.
- OECD (2014), *Mental Health and Work: Switzerland*, Mental Health and Work, OECD [45]  
 Publishing, Paris, <https://dx.doi.org/10.1787/9789264204973-en>.
- OECD (2013), *OECD Economic Surveys: Iceland 2013*, OECD Publishing, Paris, [7]  
[https://dx.doi.org/10.1787/eco\\_surveys-isl-2013-en](https://dx.doi.org/10.1787/eco_surveys-isl-2013-en).
- OECD (2012), “Sick on the Job? Myths and Realities about Mental Health and Work”. [44]
- OECD and Committee of the Regions (2015), (2015), “Results of the OECD-CoR Consultation of Sub-national Governments. Infrastructure planning and investment across levels of government: current challenges and possible solutions”, [34]  
<https://portal.cor.europa.eu/europe2020/pub/Documents/oecdcor-jointreport.pdf>.
- Olafsdottir, S. (2007), “Fundamental Causes of Health Disparities: Stratification, the Welfare State, and Health in the United States and Iceland”, *Journal of Health and Social Behavior* 2007, Vol. Vol 48, pp. 239–253. [21]
- Pareliussen, J. and H. Hwang (2018), “Benefit reform for employment and equal opportunity in Finland,”, *OECD Economics Department Working Papers, No. 1467*, [42]  
<https://doi.org/10.1787/26e12903-en>.
- Pina, Á. (2016), “Making public finances more growth and equity-friendly in the euro area”, [5]  
*OECD Economics Department Working Papers, No. 1316*, OECD Publishing, Paris,  
<https://dx.doi.org/10.1787/5jlv2jgl4kbr-en>.
- Riphahn, R. and F. Wiyneck (2017), “Fertility Effects of Child Benefits”, *CESifo Working Paper* [43]  
 6465, <http://www.CESifo-group.org/wp>.
- Sigurgeirsdóttir, S., J. Waagfjörð and A. Maresso (2014), *Iceland: health system review*. [24]
- Swiss Federal Office for Social Insurance (2016), *Invalidity Insurance Research Programme (FoP2-IV)*, Bundesamt für Sozialversicherungen (with English summary). [46]
- World Bank (2018), *Procuring Infrastructure Public Private Partnerships*. [36]
- WorldBank (2019), *World Governance Indicators*, <http://www.govindicators.org>. [2]

## **ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT**

The OECD is a unique forum where governments work together to address the economic, social and environmental challenges of globalisation. The OECD is also at the forefront of efforts to understand and to help governments respond to new developments and concerns, such as corporate governance, the information economy and the challenges of an ageing population. The Organisation provides a setting where governments can compare policy experiences, seek answers to common problems, identify good practice and work to co-ordinate domestic and international policies.

The OECD member countries are: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States. The European Union takes part in the work of the OECD.

OECD Publishing disseminates widely the results of the Organisation's statistics gathering and research on economic, social and environmental issues, as well as the conventions, guidelines and standards agreed by its members.